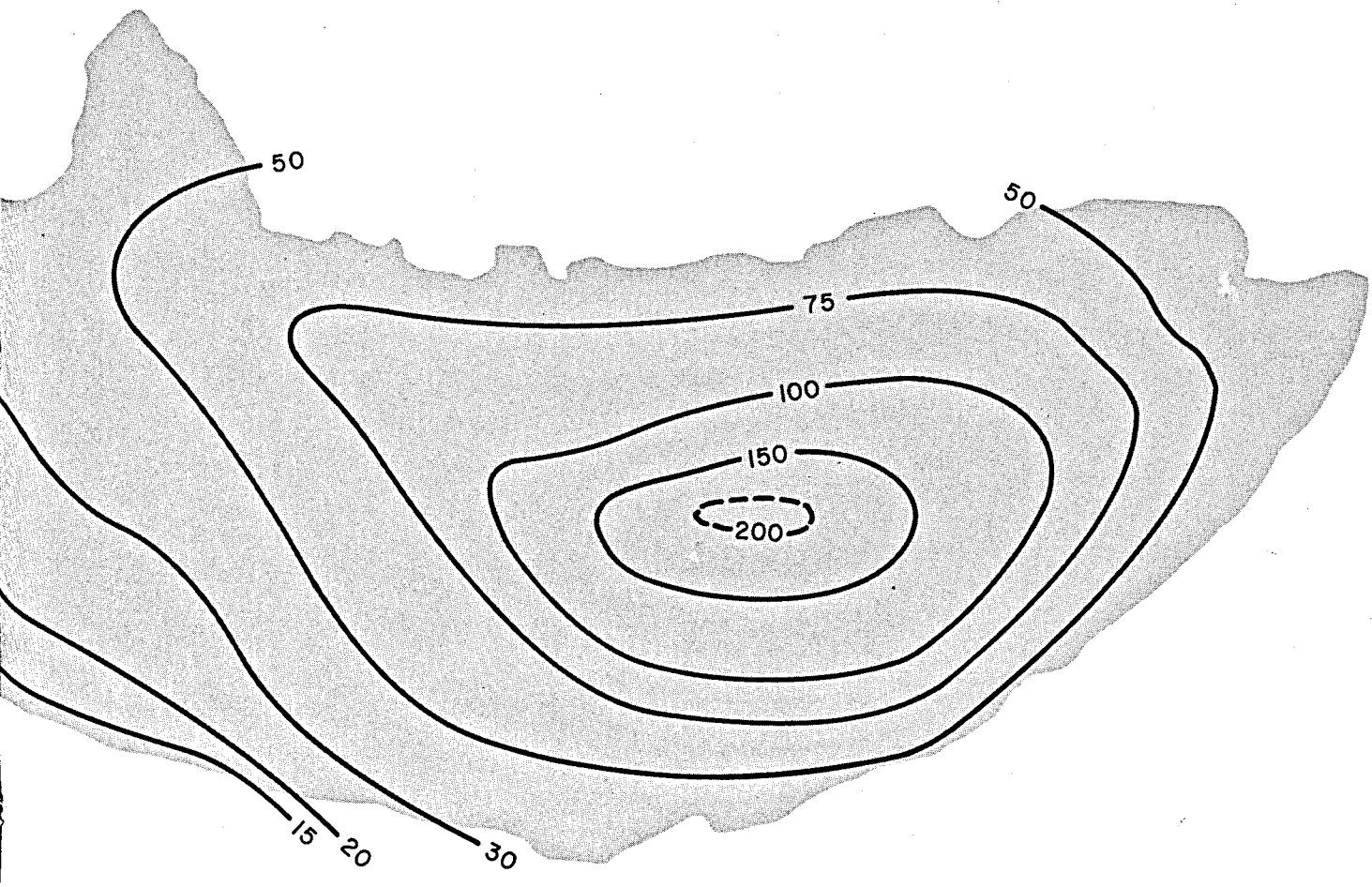
AN INVENTORY OF BASIC WATER RESOURCES DATA, MOLOKAI.

HAWAII. DEPARTMENT OF LAND AND NATURAL RESOURCES.
DIVISION OF WATER AND LAND DEVELOPMENT.

AN INVENTORY OF

Basic Water Resources Data: MOLOKAI

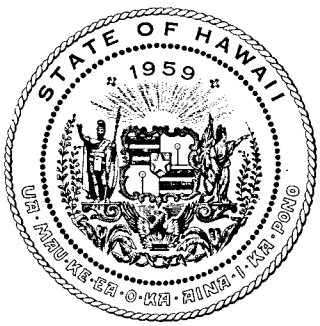


STATE OF HAWAII

AN INVENTORY OF

Basic Water Resources Data

MOLOKAI



STATE OF HAWAII

Division of Water and Land Development,

Hawaii, **DEPARTMENT OF LAND AND NATURAL RESOURCES,**

HONOLULU, HAWAII

January 1961

Organization

DEPARTMENT OF LAND AND NATURAL RESOURCES

State of Hawaii

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STATE OF HAWAII

DEPARTMENT OF LAND
AND NATURAL RESOURCES
HONOLULU 9, HAWAII

January 20, 1961

Chairman and Members
Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

Gentlemen:

It is with pleasure that we transmit this report, An Inventory of Basic Water Resources Data, Molokai, which has been prepared by the Division of Water and Land Development under the provisions of Act 22, Session Laws of Hawaii, 1957.

As you know, a major objective of our state-wide water resources program is the formulation and establishment of a long-range, comprehensive Water Plan for each of the islands in the state. Molokai, with its limited source of water located primarily in one area--the windward valleys--has been selected as the first island to be analyzed.

Before any comprehensive plan of water development can be formulated, it is necessary to collect and compile basic water resources data. This report presents an inventory of all of the available water resources data on the island of Molokai, including a compilation of records of rainfall, streamflow, pan evaporation, and water wells. A subsequent report will present a long-range, comprehensive Water Plan which will serve as a guide for a logical and orderly pattern of water development on the island of Molokai.

Respectfully submitted,

Robert T. Chuck

ROBERT T. CHUCK
Manager-Engineer
Division of
Water and Land Development

Organizational Changes

The Division of Water and Land Development of the Department of Land and Natural Resources was formerly the Hawaii Water Authority.

This change in status occurred in 1959, when the newly-created Department of Land and Natural Resources succeeded to the duties and functions of the Hawaii Water Authority, under the provisions of the Reorganization Act of the First State Legislature of Hawaii. The members of the Board of Land and Natural Resources appointed E. H. Cook as Director in June 1960; and changed the name of the Hawaii Water Authority to the Division of Water and Land Development on November 5, 1960, while simultaneously adding the responsibilities of land and mineral development to the existing duties of implementing the state-wide water resources and water development program.

Prior to 1959, under the provisions of Act 22 of the 1957 Territorial Legislature, the Hawaii Water Authority had succeeded to the duties and functions of the Hawaii Irrigation Authority which was established in 1953. At the same time, it had been given the responsibility of initiating and conducting territory-wide water resources studies. L. H. Herschler, who was Manager-Chief Engineer of the Hawaii Irrigation Authority, and subsequently the Hawaii Water Authority, was instrumental in determining many of the agency's policies and the territory-wide water resources studies.

Robert T. Chuck, in June 1960, succeeded Mr. Herschler as Acting Manager-Chief Engineer of the Hawaii Water Authority and in November 1960 he became Manager-Engineer of the Division of Water and Land Development of the Department of Land and Natural Resources.

Acknowledgments

Data used in compiling this report were contributed by agencies of the Federal Government and the State of Hawaii, by private organizations, and by various individuals. Their cooperation is gratefully acknowledged. Although it is difficult to list all names, among the contributing agencies are the following:

Geological Survey, U. S. Department of the Interior

Weather Bureau, U. S. Department of Commerce

Department of Hawaiian Home Lands

University of Hawaii Agricultural Experiment Station

Hawaiian Sugar Planters' Association

Pineapple Research Institute

California Packing Corporation

Libby, McNeill and Libby

Molokai Ranch, Ltd.

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Introduction

THE STATE-WIDE WATER RESOURCES PROGRAM

The 1957 Legislature of the Territory of Hawaii, in recognizing the problems and appreciating the role of water resources in the future of the Territory, provided the authority, under the provisions of Act 22, for initiating and conducting water resources studies. The purpose of these studies was to formulate and establish a long-range, comprehensive Water Plan to serve as a guide for a logical and orderly pattern of water development.

In compliance with Act 22, the Hawaii Water Authority initiated a state-wide water resources program in 1957. The program consisted of research, surveys, and investigations of all water resources and requirements for water development, use, and conservation. Additionally, the program included maintaining a continuing inventory of all water resources and compiling complete information concerning its nature, location, quantity, and other characteristics.

The Division of Water and Land Development of the Department of Land and Natural Resources has succeeded to the duties and responsibilities of the Authority to maintain an open file on the assembled information on water resources, to publish reports, and to implement a state-wide comprehensive water resources program. This program, through its fundamental and comprehensive survey of the state's water resources, has as its primary goal the achievement of maximum benefits from the multiple use of water for domestic, municipal, agricultural, industrial, power, and recreational purposes. This goal can be attained only through proper coordination, planning, and development.

Since the program was initiated in 1957, much data and information have been compiled. The Hawaii Water Authority's 1959 report, Water Resources in Hawaii, provides an up-to-date generalized picture of Hawaii's water resources and represents the first step of the comprehensive water resources program for Hawaii. The report, Rainfall of the Hawaiian Islands, also published by the Hawaii Water Authority in 1959, presents a comprehensive analysis of the records of some 1,400 rain gages throughout the state. These reports provide part of the basic data needed to formulate, ultimately, a comprehensive Water Plan for each island of the state.

A COMPREHENSIVE WATER PLAN

An immediate objective of the state-wide water resources program is the formulation of a general Water Plan for the island of Molokai

which will serve to guide the over-all development of the island's water resources in order to meet the requirements for all beneficial purposes, in all areas. This Water Plan for Molokai will also serve as a broad and flexible pattern into which future projects may be integrated. As additional data and experience are gained, as technology advances, and as future conditions change in manners unforeseeable today, the Water Plan will of course be subject to changes and improvements.

There is a definite need for increased control, protection, conservation, development, and distribution of the state's most vital natural resource--water. The past history of water development in the state indicates that future growth of the state will depend heavily upon coordinated and comprehensive water planning. A comprehensive Water Plan for each island of the state will provide a guide for the orderly development of this natural resource to keep pace with the present rapid growth and the promising future expansion of the state's economy.

SCOPE OF THIS REPORT

This report comprises an inventory of the basic data on surface and ground water resources necessary to formulate a Water Plan for the island of Molokai. It makes available in one report the available records of rainfall, streamflow, pan evaporation, and water wells. The basic data on rainfall and streamflow consist of actual measured values and those which have been put in usable form, such as means or averages and medians. Basic analyses of the data include isohyetal maps of median annual and median monthly rainfall and duration-discharge curves of mean daily streamflow.

With the aid of this material, a comprehensive Water Plan will be developed and published in a subsequent report.

Hydrographic Areas

The island of Molokai, County of Maui, lies 25 miles southeast of the island of Oahu and 8.5 miles northwest of the island of Maui. It is the fifth largest of the islands of Hawaii and comprises two principal topographic features, each a major volcanic mountain. East Molokai Mountain rises to 4,970 feet altitude and is highly dissected by large precipitous valleys on its windward slopes, while West Molokai Mountain rises to 1,380 feet altitude and is much less rugged than that of East Molokai. Situated between East and West Molokai is the Hoolehua Plain with relatively gentle slopes rising to 500 feet altitude.

In order to facilitate the study of surface and ground water resources, the island of Molokai has been divided into four hydrographic areas. These hydrographic areas have been adopted for use by the Division of Water and Land Development and also by the U. S. Soil Conservation Service. The boundaries are based upon surface topography comprising major ridgelines and shorelines which outline major drainage basins. These hydrographic areas which are shown in Plate 1 are briefly described as follows:

Hydrographic Area I, Windward East Molokai. Includes all drainage basins of the windward valleys of East Molokai comprising an area of 55.3 square miles, bounded by the northern coastline from immediately west of Kalaupapa eastward to the easternmost tip of the island at Halawa and thence along the major topographic divide extending westward along the crests of East Molokai Mountain.

Hydrographic Area II, Leeward East Molokai. Includes all drainage basins of the leeward slopes of East Molokai comprising an area of 57.6 square miles, bounded by the southern coastline from the easternmost tip of the island at Halawa westward to 2 miles east of Kaunakakai, thence along the line which divides the stream drainage to the sea at this point and which extends to the crest at the head of Pelekunu Valley, and thence eastward along the topographic divide to the easternmost tip of the island.

Hydrographic Area III, Central Molokai. Includes all drainage basins of Central Molokai comprising an area of 85.6 square miles, bounded by the western boundaries of Hydrographic Areas I and II, the northern and southern coastlines, and the major topographic divide extending from Ilio Point southeastward to the southern coast at a point about 7 miles west of Kaunakakai.

Hydrographic Area IV, West Molokai. Includes all drainage basins of West Molokai comprising an area of 62.0 square miles, bounded by the western coastline from Ilio Point southward to Laau Point, thence along the southern coastline from Laau Point eastward to the western

boundary of Hydrographic Area III, and thence along this boundary extending to Ilio Point.

To further facilitate studies, the hydrographic areas are also divided into subareas. Hydrographic Area I has 7 subareas which represent the four major windward valleys--Halawa, Wailau, Pelekunu, and Waikolu--and 3 other lesser drainage basins. Hydrographic Area II has 2 subareas which represent drainage basins of contrasting topography, Hydrographic Area III has 3 subareas, and Hydrographic Area IV has 2 subareas.

Rainfall

HISTORY OF RAINFALL RECORDS

Rainfall records on Molokai have been kept for many years by the United States Weather Bureau, various government agencies, private companies, and individuals. The earliest records were begun at the Mapulehu Station near Pukoo in 1892, and since that time the number of rain gages has gradually increased until records from about 100 gages are now available. The longest continuous record extends back about 58 years, but most of the records with an early beginning have discontinuous periods of record.

The Weather Bureau for many years has published the observed rainfall records of their few official rain gages, but the large number of records of unofficial gages maintained by various government agencies, private companies and individuals are not published. These unofficial rain gage records were kept in the open files of the Weather Bureau until their transfer to the Hawaii Water Authority in January, 1960.

The Division of Water and Land Development now has, by mutual agreement, the responsibility for collecting, collating, and maintaining all rainfall records from rain gages throughout the state except those designated as official Weather Bureau gages. Unpublished records of rain gages obtained since 1948 and all records included in the Weather Bureau's publication, Climatological Data, Hawaii, are now kept in the open files of the Division in the State Office Building, Honolulu, and are available to all agencies and individuals for reference. This open file represents probably the most complete source of rainfall records in the state.

DISTRIBUTION OF RAIN GAGES

The location of all rain gages on Molokai is shown in Plate 2. Most of the total 99 gages plotted on the map are located in Central Molokai (Hydrographic Area III), which receives about 18 percent of the total rainfall on Molokai. Of the 50 rain gages in Central Molokai, 39 are active and 11 inactive. West Molokai (Hydrographic Area IV) has the next largest number--34 rain gages of which 25 are active and 9 inactive. Of the remaining 15 rain gages there are 6 active and 3 inactive in leeward East Molokai (Hydrographic Area II), and 2 active and 4 inactive in windward East Molokai (Hydrographic Area I).

In terms of percentages, 50 percent of the rain gages on Molokai are located in Hydrographic Area III which receives about 18 percent of the total rainfall on the island. On the other hand, only 15

percent of the rain gages are located in Hydrographic Areas I and II which receive over 70 percent of the total rainfall. It is apparent from these figures that rainfall data is inadequate in the important heavy rainfall areas of East Molokai, where the major sources of water occur. Additional rain gages at appropriate locations in East Molokai would help provide more reliable estimates of the amount of rainfall in these important areas.

COMPILATION OF RAIN GAGES

A compilation of all available rain gage records on Molokai is presented in the index shown in Table 1. This list is current through 1959 and provides a complete reference to all gages with available records. The records of official U. S. Weather Bureau gages are available in its periodical publication, Climatological Data, Hawaii. Many of the records of the unofficial rain gages prior to 1948 are available only in the files of the government agency, private company, or individual maintaining them. All unpublished records obtained since 1948, however, are located in the open files of the Division of Water and Land Development.

Of the 99 rain gages on Molokai, 83 are maintained by three private pineapple companies; namely, California Packing Corporation (30 gages), Molokai Ranch, Ltd. (29 gages), and Libby, McNeill and Libby (24 gages). The remaining 16 gages are maintained by various government agencies and individuals. Only the 12 listed official Weather Bureau gages, of which 8 are active, have published records.

The description of the rain gages includes location, elevation, period of record, and number of years of complete record. Rain gages are listed in numerical order according to assigned state key numbers, and not according to gage names or gage numbers, commonly designated by the company or individual maintaining them.

A cross-reference to the numerical listing of rain gages is presented in the alphabetical list of Table 2. Since this table lists the rain gages by each of its different names, gage numbers, or field numbers, there are over 150 listings as compared to 99 in Table 1.

ISOHYETAL MAPS

The isohyetal maps (maps showing contours of equal rainfall) presented in this report include median monthly and median annual rainfall and are based upon median values determined from actual or extrapolated rainfall records for the 25-year period 1933-1957. These data are taken from the Hawaii Water Authority report, Rainfall of the Hawaiian Islands, prepared by W. J. Taliaferro in September, 1959. The isohyetal lines of the monthly rainfall maps are determined from values for 32 gages which are plotted on the maps with their respective median values. These 32 gages provide insufficient data for accurate isohyets, particularly in the heavy rainfall areas, where available

rainfall records are limited. The isohyetal lines on East Molokai, where most of the rainfall on the island occurs, are determined from median values for only 6 gages. This fact points out the need for additional rainfall records in an area having major potential sources of surface water.

The median monthly rainfall on Molokai is shown by the isohyetal maps in Plates 3a to 3f. Except for minor variations, the distribution of rainfall on the island which is illustrated by the isohyetal contours remains essentially the same for each month of the year. Maximum rainfall occurs in East Molokai, intermediate rainfall in Central Molokai, and minimum rainfall in West Molokai. The different values of the isohyetal contours also show that minimum monthly rainfall occurs in June and maximum in December and January.

In addition to the isohyetal maps, the monthly rainfall is graphically illustrated in Plate 5 by the bar graphs of median, maximum, and minimum rainfall (for the period of record) at selected rain gages. Generally, the dry months of the year occur from March through September and the wet months from October through February. The median rainfall for rain gages at low elevations show a pattern of wet and dry months, but at high elevations the median rainfall appears fairly uniform throughout the year.

The annual rainfall map of Molokai presented in Plate 4 is based upon median values determined from rainfall records for the period 1933-1957 at 43 rain gages. Median annual rainfall ranges from 40 to 200 inches in East Molokai, from 15 to 30 inches in West Molokai, and from 15 to 40 inches in Central Molokai. Heaviest rainfall occurs in the precipitous windward valleys; namely Pelekunu and Wailau, and the maximum recorded annual rainfall is about 200 inches at Gage No. 544, near the summit at the head of Wailau Valley. Annual rainfall decreases away from this area of maximum, corresponding generally to the decrease in elevation. The geographic distribution of the annual rainfall, consequently, reflects the topography of the island.

Yearly variations in annual rainfall which are not shown by isohyetal maps are illustrated for selected gages during the period 1930-1959 by the bar graphs in Plates 6a and 6b. Wet and dry periods lasting several years which occurred during this time are pointed out by the 3-year moving-mean curve. This curve plotted from the mean rainfall for every three years centering on the year indicated, smoothes out minor fluctuations and makes it possible to determine dry and wet periods of rainfall. Dry periods are indicated during 1931-1935, 1940-1949, and 1951-1954. The driest year ever recorded on Molokai and also in the state by the U. S. Weather Bureau occurred in 1953.

VOLUME OF ANNUAL RAINFALL

The median annual rainfall map was used at a scale of 1:62,500 to determine the volume of annual rainfall in million gallons on the entire island and in each hydrographic area and subarea. The depth of rainfall in areas between two adjacent isohyetal lines was assumed

Table A. **VOLUME OF ANNUAL RAINFALL IN EACH HYDROGRAPHIC AREA AND SUBAREA**

Hydrographic area	Subarea	Area in sq. mi.	Annual rainfall (M.G.)	Annual rainfall (inches)	Percent of total rainfall
I WINDWARD EAST MOLOKAI	1	9.0	11,500	73.6	5.6
	2	6.2	7,700	71.7	3.8
	3	11.4	27,900	140.8	13.5
	4	2.3	3,200	79.6	1.5
	5	9.6	16,300	97.7	7.9
	6	5.0	7,300	84.3	3.6
	7	11.8	10,200	49.7	4.9
Total		55.3	84,200	87.6	40.8
II LEEWARD EAST MOLOKAI	1	33.8	47,100	80.2	22.9
	2	23.8	16,700	40.4	8.1
Total		57.6	63,800	63.8	31.0
III CENTRAL MOLOKAI	1	36.3	17,800	28.2	8.6
	2	21.3	7,900	21.3	3.8
	3	28.0	10,600	21.8	5.2
Total		85.6	36,300	24.4	17.6
IV WEST MOLOKAI	1	23.1	8,000	19.9	3.9
	2	38.9	13,700	20.3	6.7
Total		62.0	21,700	20.1	10.6
ISLAND OF MOLOKAI		260.5	206,000	45.6	100.0

to be the average of the adjacent isohyetal lines. Products of the areas included between adjacent isohyetal lines and the depths of rainfall were added to obtain the average volume of rainfall in each of the hydrographic subareas.

The results for each hydrographic area and for the island as a whole are summarized in Table A. Besides the volume of rainfall given in million gallons, data are given for the area in square miles, the annual rainfall in inches, and the percent of the total rainfall on the island. The island of Molokai receives 206,000 million gallons, or 45.6 inches of annual rainfall. Hydrographic Area I (windward East Molokai) receives 84,200 million gallons per year, 87.6 inches, or 40.8 percent of the island total; Hydrographic Area II (leeward East Molokai) 63,800 million gallons, 63.8 inches, or 31.0 percent; Hydrographic Area III (Central Molokai) 36,300 million gallons, 24.4 inches, or 17.6 percent; and Hydrographic Area IV (West Molokai) 21,700 million gallons, 20.1 inches, or 10.6 percent.

These quantitative data will aid in determining the availability of water, which is necessary in preparing a comprehensive Water Plan for Molokai. The total amount of rainfall represents an important factor in estimating water resources. When the water losses from evapo-transpiration is subtracted from the total rainfall, the net rainfall that contributes to surface runoff and to ground water is obtained.

RAINFALL TABLES

The median, maximum, and minimum monthly and annual rainfall at gages with records of 10 years or more are presented in Table 3. These data are taken from the 1959 report, Rainfall of the Hawaiian Islands, by the Hawaii Water Authority. Only those rain gages having at least 10 years of record have been included in Table 3 because it is believed that at least 10 years of record is necessary to give reliable values of median rainfall. Unlike the median values of the isohyetal maps which were determined from records for the 25-year period 1933-1957, the median values given in Table 3 are determined for the period of record and are expressed to the nearest tenth of an inch.

Records of monthly and annual rainfall at gages with records of 15 or more continuous years are presented in Table 4. These records, taken from the files of the Division of Water and Land Development, include published Weather Bureau records and unpublished records of various government agencies, private companies, and individuals. Records for some of the years are missing, incomplete, or unavailable. Although a number of other rain gages have a total of 15 complete years of records, only those with 15 continuous years of record are included in Table 4. Means for the period of record of the monthly and annual rainfall are also given.

Streamflow

HISTORY OF STREAMFLOW RECORDS

Streamflow records on the island of Molokai have been kept for many years by the U. S. Geological Survey. The earliest record was begun in 1917 at Station I-73 located on Halawa Stream. Records at 6 additional stream-gaging stations were begun in 1919, but during the years 1929-1937 these were discontinued except for 2 which remained in operation until 1932. In 1937, stream-gaging stations were again established and records are now available for a total of 17 stations, both active and discontinued. Station I-73 located on Halawa Stream has the longest continuous record which extends back to 1937 and the largest number of years (35) of record.

The U. S. Geological Survey currently operates only 6 stream-gaging stations on the island of Molokai as a part of its state-wide surface water measurements program. This program is carried out as a cooperative undertaking financed through matching funds by the Federal Government and the State of Hawaii.

All streamflow records are published annually for fiscal-year periods by the U. S. Geological Survey in its Water Supply Papers, Surface Water Supply of Hawaii. The records for any particular gaging station may be found in those reports covering the years during which that station was maintained, except where publication of data was postponed. In 1939, the Territorial Planning Board published a summary of all streamflow records in the state in its report, Surface-Water Resources of the Territory of Hawaii, 1901-38, which includes unpublished and published records available up to December, 1938. A more recent summary of all streamflow records for the years 1910-1950 is to be published in the near future by the U. S. Geological Survey.

DISTRIBUTION OF STREAM-GAGING STATIONS

The locations of all stream-gaging stations on the island of Molokai are shown in Plate 7. Of the 17 gaging stations plotted on the map, 6 are active and 11 discontinued. Most of the gaging stations are located in the windward valleys of East Molokai (Hydrographic Area I), where the only perennial streams of Molokai occur. Only 2 gaging stations, both active, are located in leeward East Molokai (Hydrographic Area II), where only intermittent streams occur, and 4 (only 1 active) are located on intermittent streams in the extreme portion of Central Molokai (Hydrographic Area III). No stream-gaging stations have been established in West Molokai (Hydrographic Area IV), where only dry gulches occur.

Most of the available streamflow records are for stations located on Halawa, Wailau, Pelekunu, and Waikolu Streams. These streams represent major potential sources of surface water on the island; and in this regard, the Molokai Tunnel Project, which was begun and designed in 1958 by the Hawaii Water Authority to eventually bring some 40 million gallons a day from these windward valleys to the Central and West Molokai areas, represents the first major undertaking for utilizing these abundant surface water supplies. In evaluating the surface water supplies, much of the essential data will be provided by the available streamflow records. Of 8 stations located in the windward valleys there are now 3 active stream-gaging stations--2 located on Waikolu Stream and 1 on Halawa Stream. Four stations located on streams in Pelekunu and Wailau Valleys were discontinued in 1957.

COMPILATION OF STREAMFLOW RECORDS

In the compilation of streamflow records presented in Table 5, data up to the year 1938 were taken from the summary of records published by the Territorial Planning Board in 1939. Records from 1938 to 1958 were obtained from each of the annual U. S. Geological Survey Water Supply Papers, and unpublished records (subject to revision) from 1958-1960 were obtained from the local office of the U. S. Geological Survey.

A total of 17 gaging stations are listed numerically according to the map numbers shown in Plate 7. The description of each station includes the location, the name of the stream, the latitude and longitude, the drainage area in square miles, and the elevation. Also included are the period of record and the number of complete years of record for each station. The average daily and annual streamflow for the period of record of each gaging station is given in million gallons per day (MGD) and million gallons per year (MGY). The streams in the major windward valleys have average streamflows ranging from 7.5 MGD to 22.1 MGD. Station I-55 on Pulena Stream in Wailau Valley, with 22.1 MGD, has the highest average streamflow and Station I-59 on Waiakeakua the lowest with 7.5 MGD. All of the gaging stations not in the windward valleys are located on intermittent streams and have average streamflows ranging from 0.016 MGD at Station III-92 to 1.91 MGD at Station III-83.

Miscellaneous streamflow measurements made at points other than regular gaging stations are not included in this report. Records for a total of 81 miscellaneous stations on Molokai are published in the annual U. S. Geological Survey Water Supply Papers. There are 70 miscellaneous stations in Hydrographic Area I, 5 in Hydrographic Area II, 6 in Hydrographic Area III and none in Hydrographic Area IV.

STREAMFLOW TABLES

Annual streamflow, expressed in million gallons, for all 17 gaging stations are summarized in Table 6. Only those years with complete

records are included. The monthly and annual streamflow expressed in million gallons are presented in Table 7 and are compiled from the annual U. S. Geological Survey Water Supply Papers and from the summary of records published by the Territorial Planning Board. Table 7 includes the maximum, minimum, mean, and total monthly and annual streamflow for only those gaging stations with records of 10 or more years.

In graphically showing the percentage of time that the average daily streamflow was equaled or exceeded, duration-discharge curves for six streams of the windward valleys are presented in Plates 8a and 8b. These curves are plotted from the duration-discharge tables of the summary report by the Territorial Planning Board. These tables of the average daily streamflow, for the period of record through 1938, are based upon average values computed for the following number of years of record: Halawa Stream, 15.6; Pelekunu Stream, 9.9; Lanipuni Stream, 10.6; Pulena Stream, 10.0; Waikolu Stream at 253 feet, 10.8; and Waiakeakua Stream, 10.7.

Pan Evaporation

The records of pan evaporation shown in Table B are for the discontinued Meyer's Lake Station (Gage No. 559.4) which was maintained by the U. S. Geological Survey in 1931-1932. These unpublished records of irregular measurements which include 8 months of the 1-year period of record are located in the open files of the Division of Water and Land Development.

The data in Table B are the only available pan evaporation record on Molokai. These data include measurements of rainfall, level of Meyer's Lake, and water level of the evaporation pan. Unfortunately, most of the data appear to be lacking or unreliable. Values for evaporation are shown for only 3 dates of measurements.

This dearth of records on pan evaporation (the rate of evaporation from a free surface of fresh water) represents a void in data for one of the major components of the hydrologic cycle--evapo-transpiration. From the close relationship that exists between pan evaporation and evapo-transpiration it is possible to make improved quantitative correlations with evapo-transpiration, as more data on pan evaporation measurements are available. Because records are practically unavailable, the establishment of pan evaporation stations in selected areas on Molokai will provide data necessary for hydrologic studies involving the correlation of the various quantities of water losses with pan evaporation. Such data is important for water resources studies used to formulate a long-range, comprehensive Water Plan.

Table B. **RECORDS OF PAN EVAPORATION**

Gage No. 559.4 - Meyer's Lake

Date	Lake level in ft.	Rainfall in inches	Evaporation pan in inches found	Evaporation pan in inches left	No. of days	Evaporation in inches for period	Evaporation in inches avg./day	Remarks
1931								
Mar. 20	5.45	1.94	3.70	--		*		
30	5.30	0.34	2.90	3.90	10	*		Filled
Apr. 7	5.90	4.62	7.20	5.10	8	1.32	0.16	Emptied
20	5.96	2.36	5.40	--	13	2.06	0.16	
Aug. 30	6.60	6.29	4.2	--	132	*		
Sept. 13	7.10	6.84	Full	3.0	14	*		Emptied
Oct. 1	7.55	6.55	6.5	4.7	18	3.0	0.17	Emptied
Nov. 8	8.18	12.40	7.0	3.8	38	**		Emptied
24	7.65	1.52	2.1	4.5	16	**		Filled
25	7.65	1.58	2.1	4.8	1	**		Filled
Dec. 16	8.25	6.84	8.86	4.8	21	**		Emptied
1932								
Jan. 26	7.55	6.34	7.0	4.0	41	**		Emptied
Feb. 23	8.30	9.90	7.0	3.5	28	**		Emptied
25	8.36	1.30	5.8	5.8	2	**		Lake overflowing

* Observed data insufficient.
** Observed data unreliable or in error.

Well Records

The compilation of well records on the island of Molokai is presented in Table 8. These records are taken from Bulletin 11, Geology and Ground-Water Resources of the Island of Molokai, Hawaii, by the Hawaii Division of Hydrography in cooperation with the U. S. Geological Survey, 1947, and from field data furnished by owners or tenants of the wells. The latter data is kept on file by the Division of Water and Land Development. Some of the records taken from Bulletin 11 have been revised and brought up to date. Of the 123 wells listed there are 88 dug wells, 17 drilled wells, 9 shafts (Maui-type wells), and 9 test holes.

All wells in Table 8 are arranged in numerical order according to the U.S.G.S. numbers shown in Plate 9. The description of each well includes the name, if any; the location by district, hydrographic area and subarea, and latitude and longitude; the owner of the installation; the date drilled; the elevation in feet above mean sea level; and the purpose for which it is used. Other data presented are the depth of the well expressed in feet below the land-surface datum; the head (static water level) of the well expressed in feet above mean sea level; and the chloride content of the water expressed in parts per million (ppm) of chloride. Of the 123 wells, 47 are abandoned or unused. The remaining 76 wells are used for irrigation and domestic and livestock purposes.

The location of all wells and test holes are shown in Plate 9. Numbers prefixed by the letters S, D, or T designate shafts, drilled wells, or test holes, respectively; and those without prefix letters designate dug wells. Fresh water (less than 250 ppm of chloride) is shown by solid circles; brackish water (greater than 250 ppm of chloride) by semi-solid circles; and sea water (19,000 ppm of chloride) by open circles drawn through with vertical lines. Wells which do not have chloride content data are shown by open circles.

Almost all of the shallow wells are located along the southern coast of Molokai where water is obtained from the basal ground water zone. Drilled wells and test holes are generally located inland from the coast at higher elevations and, consequently, extend to greater depths in order to reach the basal ground water. Most of the wells are distributed along the southern coast between Kaunakakai and Pukoo, where fresh-water wells generally are more numerous in the immediate vicinity of the drainage areas of the larger intermittent streams; namely Kawela and Kamalo. In the area east of Kamalo along the southeastern coast of East Molokai, there are only two records of brackish-water wells among all of the wells which have chloride content data. This fact suggests that fresh water from shallow wells may be most readily available along this area of the coast. Inland,

on the western slope of East Molokai near Kalae, two drilled wells (D16 and D17) at approximately 1,000 feet elevation produce fresh water from the basal ground water zone. From the available well records there is no indication that fresh water occurs in West Molokai and Central Molokai as far east as Kaunakakai. No records of wells are available in windward East Molokai.

The available records of water level and chloride content of 7 observation wells maintained by the U. S. Geological Survey are presented in Table 9. These data are taken from U. S. Geological Survey Water Supply Papers, Water Levels and Artesian Pressures in Observation Wells in the United States. Included are the dates of measurements, the water level in feet above mean sea level, and the chloride content in parts per million. Records of chloride content are only available for Test Boring T1, Test Boring T4, and the Conant-Kawela Well.

References

1. Butler, Stanley S., Engineering Hydrology. Prentiss-Hall, Inc., N. J., 1957.

2. Stearns, H. T., and Macdonald, G. A., Geology and Ground-Water Resources of the Island of Molokai, Hawaii. Hawaii Division of Hydrography, Bull. No. 11, 1947.

3. Taliaferro, W. J., Rainfall of the Hawaiian Islands. Hawaii Water Authority, 1959.

4. Climatological Data, Hawaii. Annual Summaries, U. S. Weather Bureau, Honolulu.

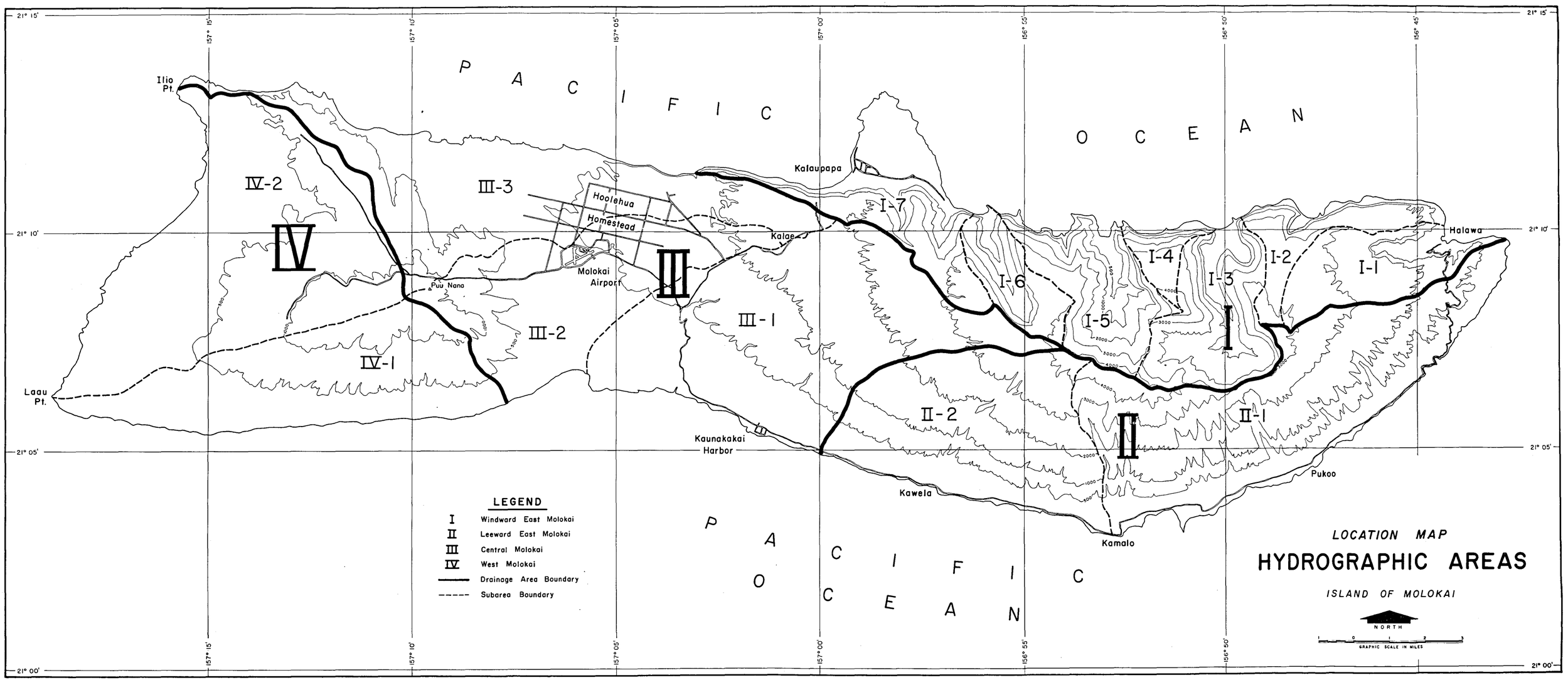
5. Molokai Project, Territory of Hawaii. United States Bureau of Reclamation, Denver, Colorado, 1957.

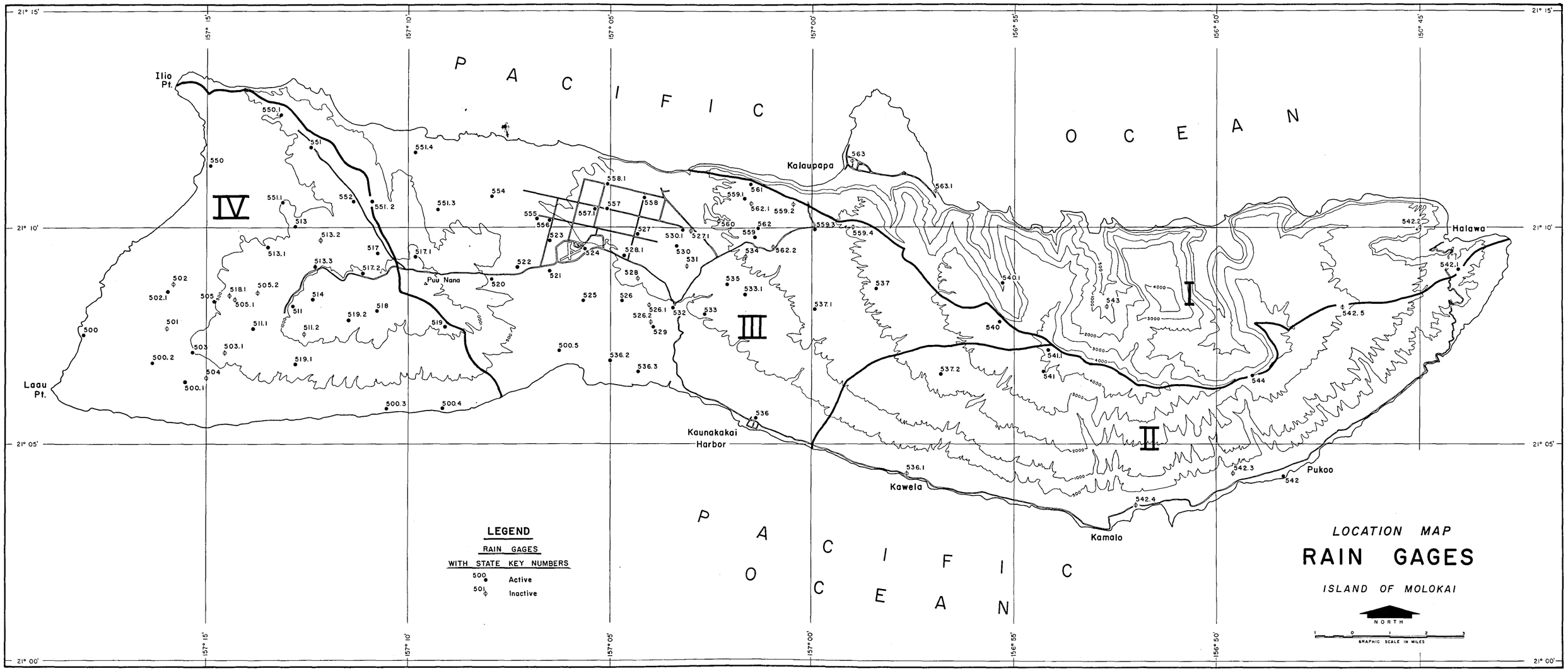
6. Surface-Water Resources of the Territory of Hawaii, 1901-1938. Territorial Planning Board, 1939.

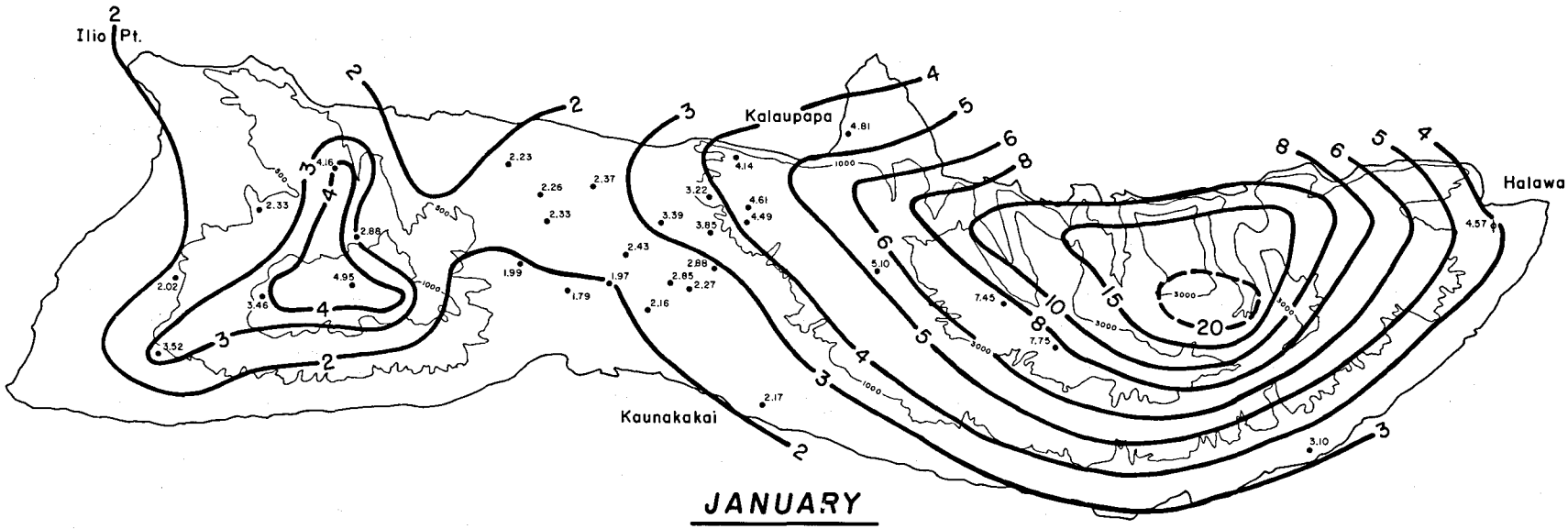
7. Surface Water Supply of Hawaii. U. S. Geological Survey Water Supply Papers No. 865, 885, 905, 935, 965, 985, 1015, 1045, 1065, 1095, 1125, 1155, 1185, 1219, 1249, 1289, 1349, 1449, 1569; 1938-1958.

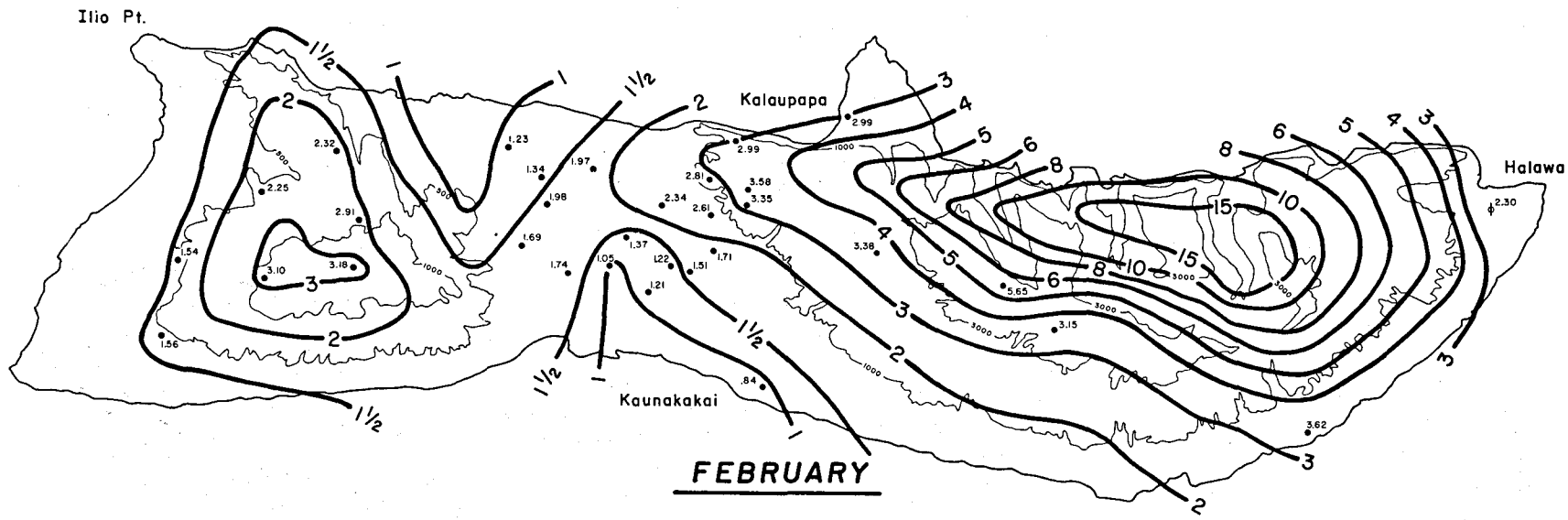
8. Water Levels and Artesian Pressure in Observation Wells in the United States. U. S. Geological Survey Water Supply Papers No. 911, 941, 949, 991, 1021, 1028, 1076, 1101, 1131, 1161, 1170, 1196, 1226, 1270, 1326, 1409; 1940-1955.

9. Water Resources in Hawaii. Hawaii Water Authority, 1959.


21° 15'
21° 10'
21° 05'
21° 00'
157° 15'
157° 10'
157° 05'
157° 00'
156° 55'
156° 50'
156° 45'
P A C I F I C O C E A N
Ilio Pt.
Laau Pt.
Puu Nana
Molokai Airport
Hoolehua Homestead
Kalae
Kalaupapa
Kaunakakai Harbor
Kawela
Kamalo
Pukoo
Halawa
IV-2
IV
IV-1
III-3
III
III-2
III-1
I-7
I-6
I-5
I-4
I-3
I-2
I-1
I
II-2
II
II-1
LEGEND
I Windward East Molokai
II Leeward East Molokai
III Central Molokai
IV West Molokai
Drainage Area Boundary
Subarea Boundary
LOCATION MAP
HYDROGRAPHIC AREAS
ISLAND OF MOLOKAI
NORTH
GRAPHIC SCALE IN MILES


21° 15'
21° 10'
21° 05'
21° 00'
157° 15'
157° 10'
157° 05'
157° 00'
156° 55'
156° 50'
156° 45'
P A C I F I C O C E A N
P A C I F I C O C E A N
Ilio Pt.
Laau Pt.
Kalaupapa
Halawa
Puu Nana
Kaunakakai Harbor
Kawela
Kamalo
Pukoo
IV
III
II
I
LEGEND
RAIN GAGES
WITH STATE KEY NUMBERS
500 Active
501 Inactive
LOCATION MAP
RAIN GAGES
ISLAND OF MOLOKAI
NORTH
0 1 2 3
GRAPHIC SCALE IN MILES





MEDIAN MONTHLY RAINFALL

ISLAND OF MOLOKAI

NORTH

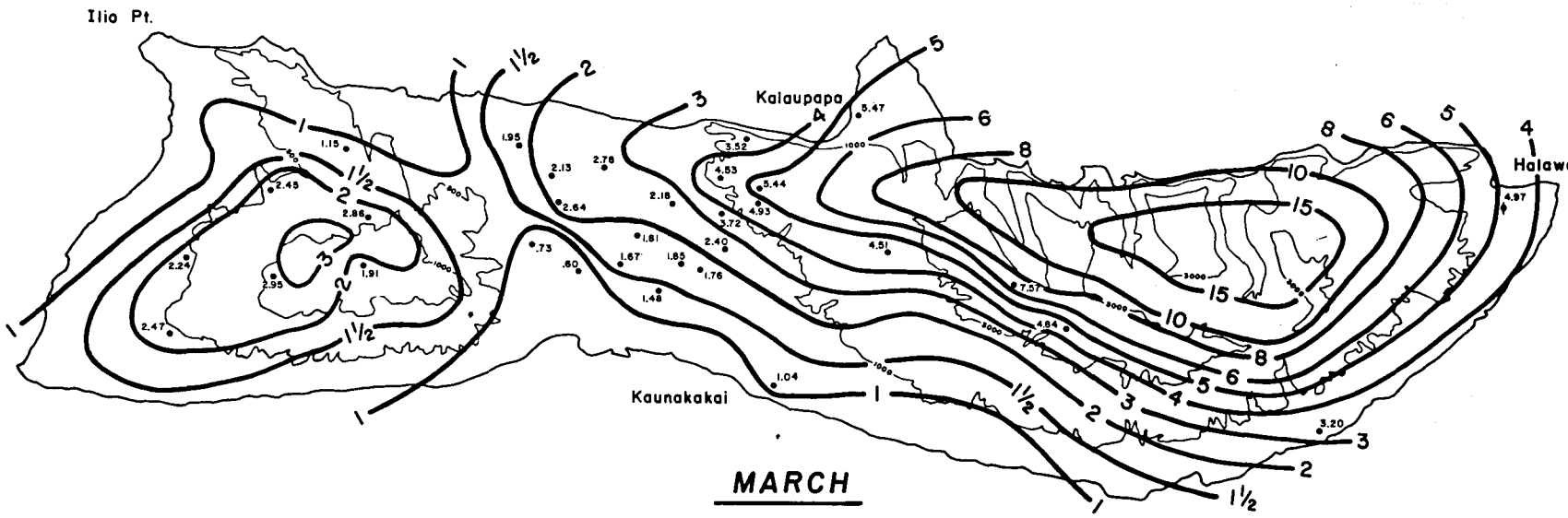
5 0 5 10

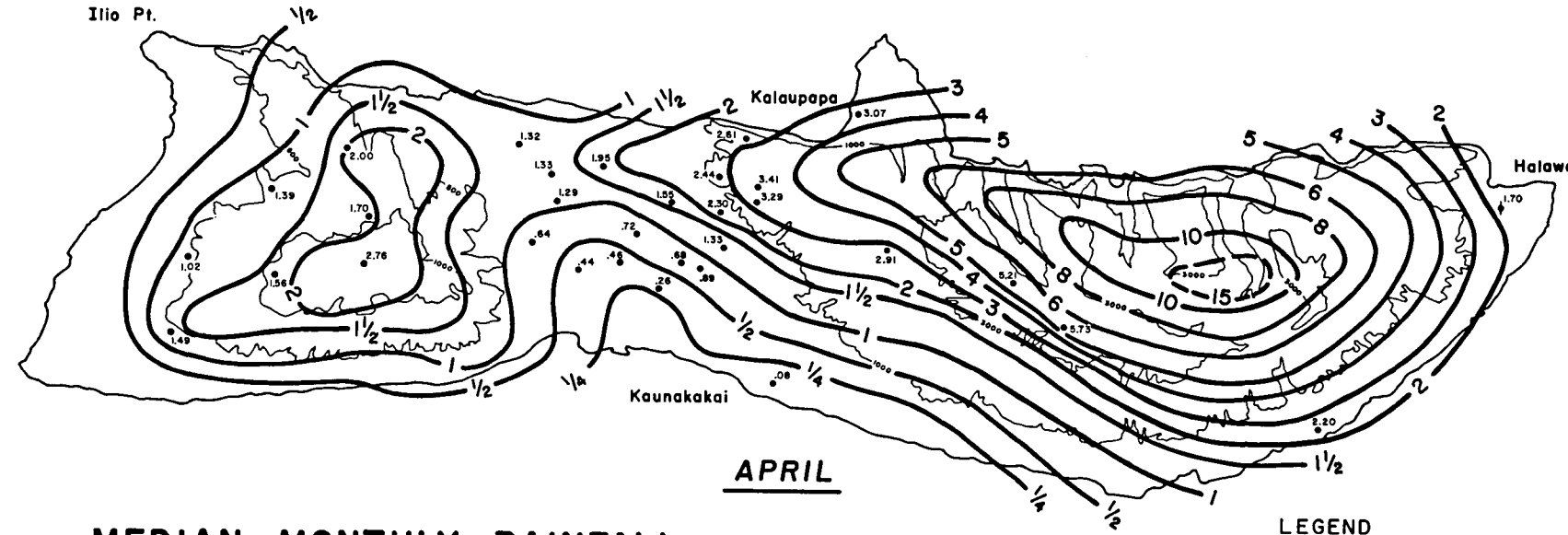
SCALE IN MILES

NOTE: Figure next to rain gage denotes median rainfall for period 1933 to 1957. Isohyets based on values from 32 gages.

LEGEND

- 3.30 Active Rain Gage
- ϕ 2.30 Discontinued Rain Gage
- —15— Isohyetal Line
- --20-- Estimated Isohyetal Line





MEDIAN MONTHLY RAINFALL

ISLAND OF MOLOKAI

NORTH

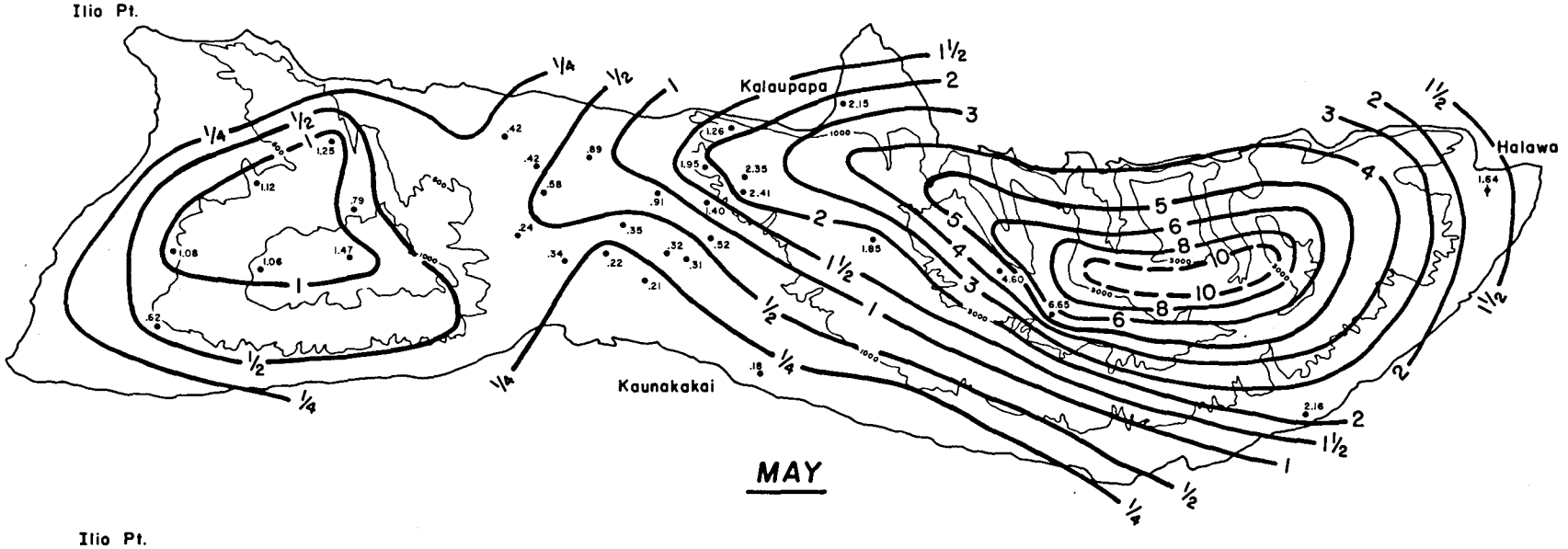
5 0 5 10

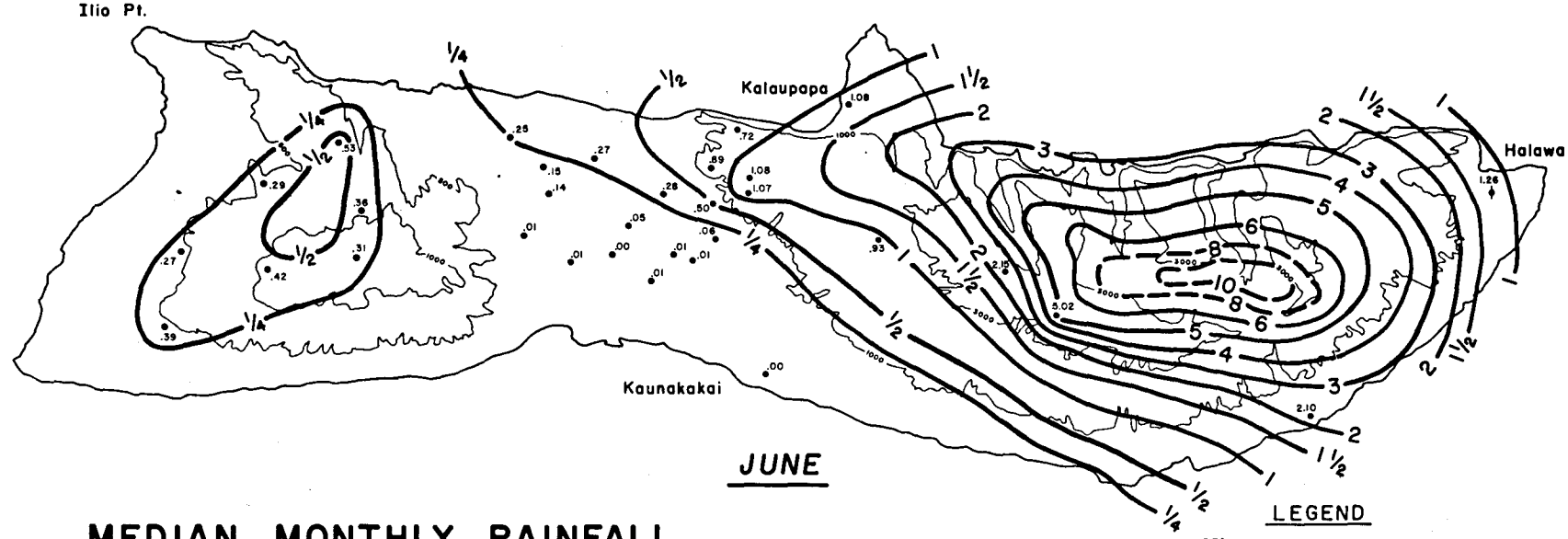
SCALE IN MILES

NOTE: Figure next to rain gage denotes median rainfall for period 1933 to 1957. Isohyets based on values from 32 gages.

LEGEND

- 3.30 Active Rain Gage
- 2.30 Discontinued Rain Gage
- 15 Isohyetal Line
- 15 Estimated Isohyetal Line





MEDIAN MONTHLY RAINFALL

ISLAND OF MOLOKAI

NORTH

5 0 5 10

SCALE IN MILES

NOTE: Figure next to rain gage denotes median rainfall for period 1933 to 1957. Isohyets based on values from 32 gages.

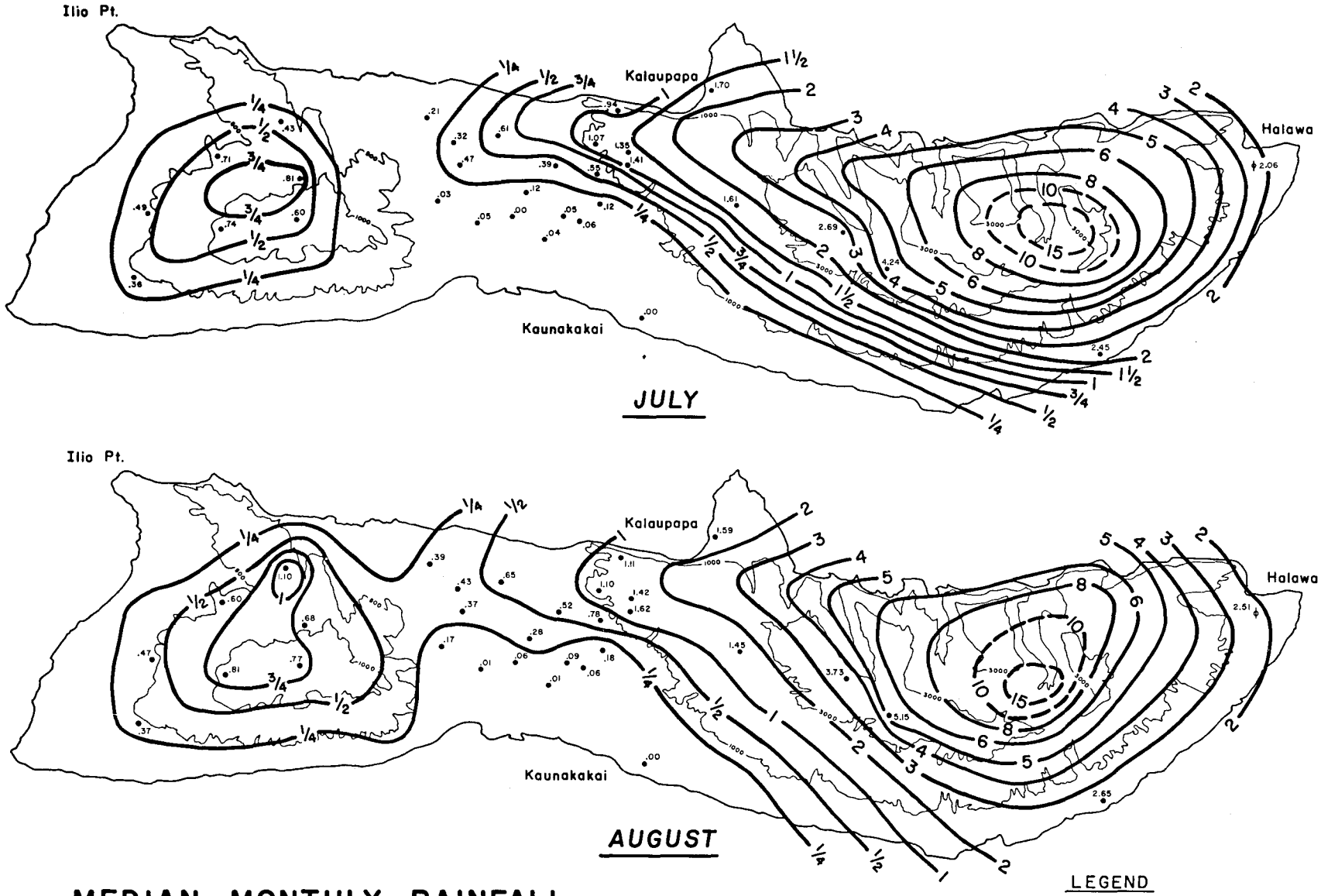
LEGEND

3.30 Active Rain Gage

2.30 Discontinued Rain Gage

8 Isohyetal Line

10 Estimated Isohyetal Line



MEDIAN MONTHLY RAINFALL

ISLAND OF MOLOKAI

NORTH

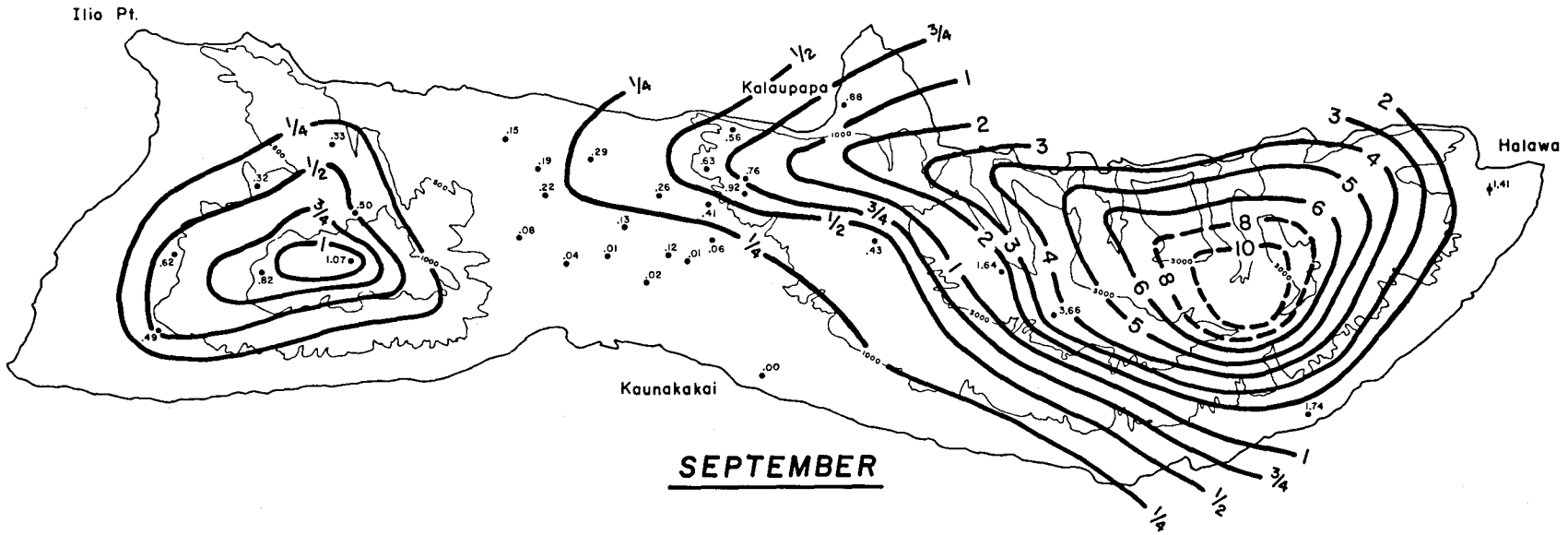
5 0 5 10

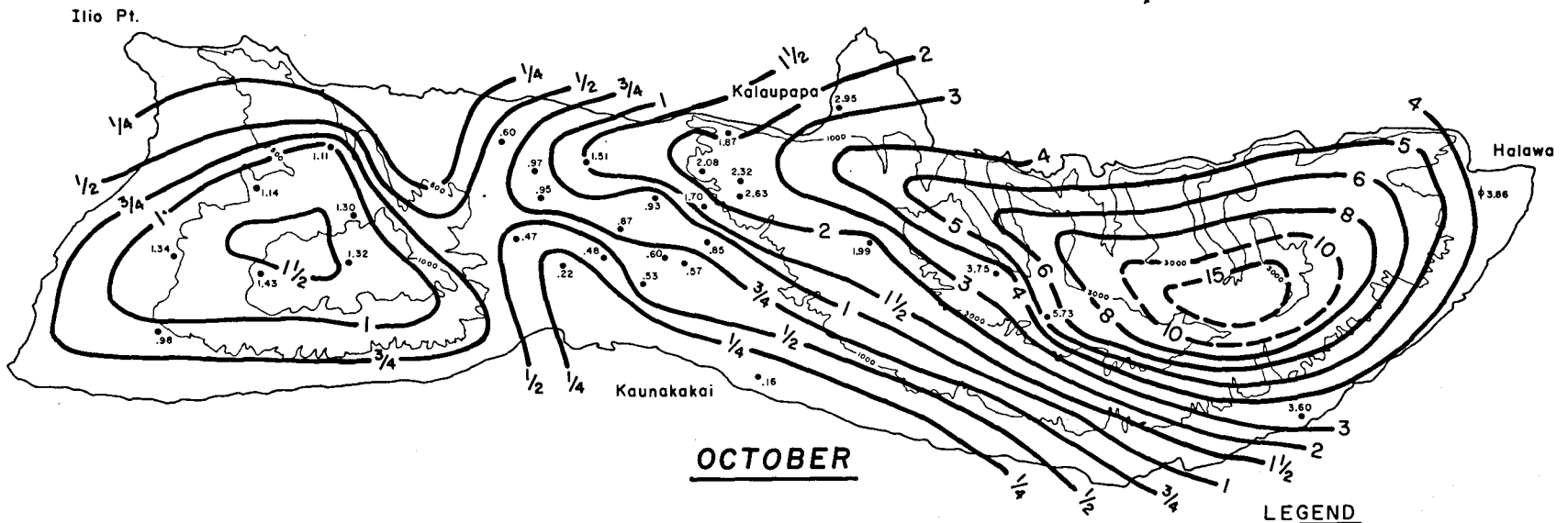
SCALE IN MILES

NOTE: Figure next to rain gage denotes median rainfall for period 1933 to 1957. Isohyets based on values from 32 gages.

LEGEND

- 3.30 Active Rain Gage
- 2.30 Discontinued Rain Gage
- —8— Isohyetal Line
- --15-- Estimated Isohyetal Line





MEDIAN MONTHLY RAINFALL

ISLAND OF MOLOKAI

NORTH

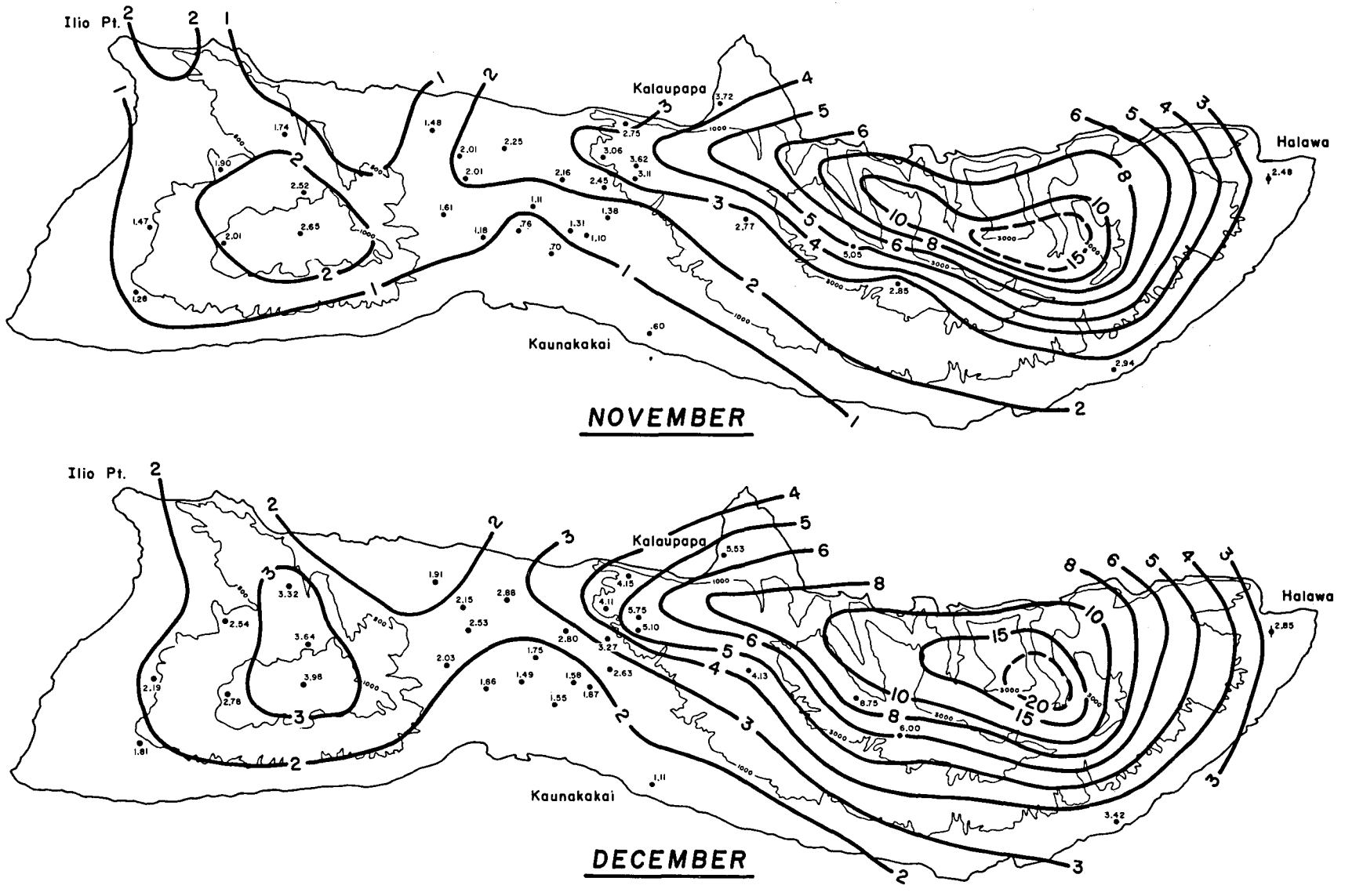
5 0 5 10

SCALE IN MILES

NOTE: Figure next to rain gage denotes median rainfall for period 1933 to 1957. Isohyets based on values from 32 gages.

LEGEND

- 3.30 Active Rain Gage
- 2.30 Discontinued Rain Gage
- 6 Isohyetal Line
- 10 Estimated Isohyetal Line



MEDIAN MONTHLY RAINFALL

ISLAND OF MOLOKAI

NORTH

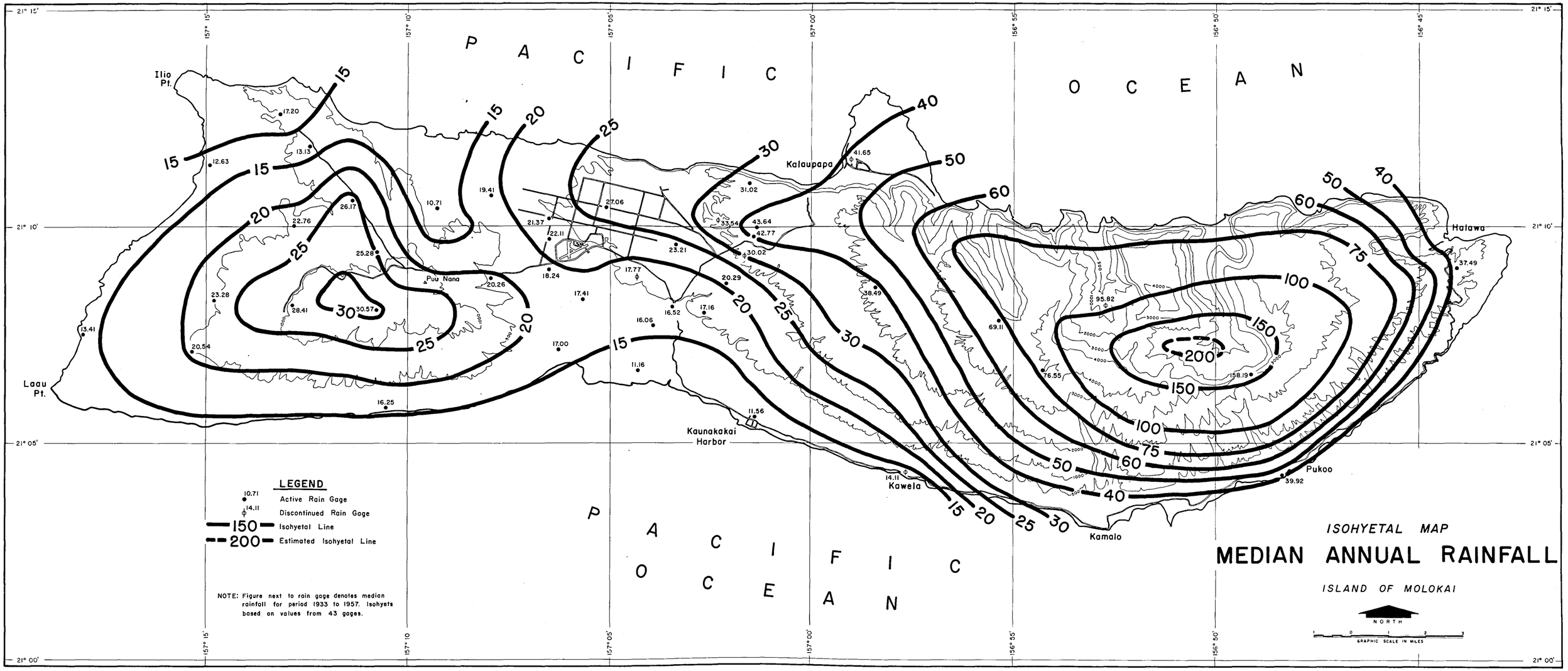
5 0 5 10

SCALE IN MILES

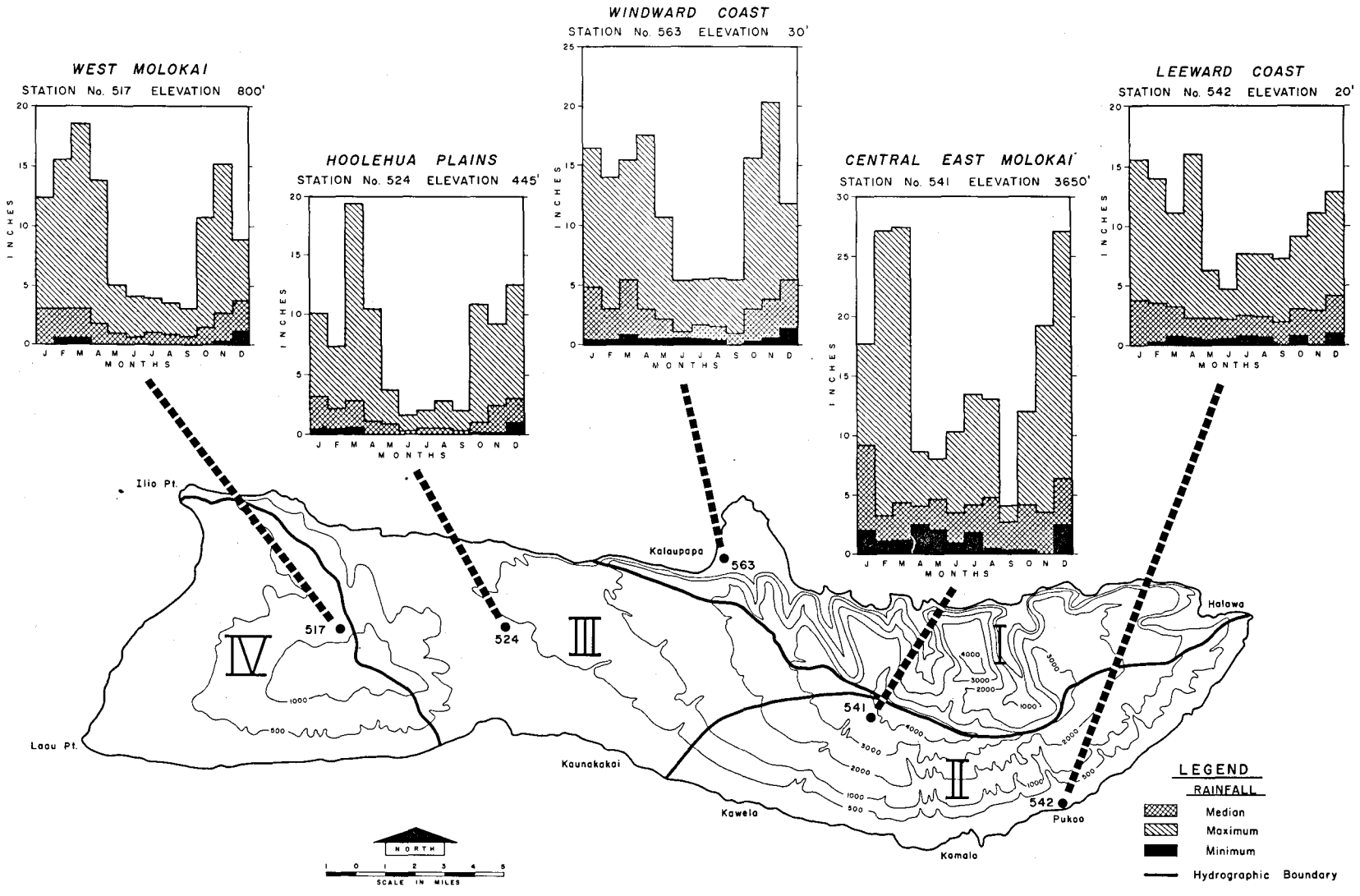
NOTE: Figure next to rain gage denotes median rainfall for period 1933 to 1957. Isohyets based on values from 32 gages.

LEGEND

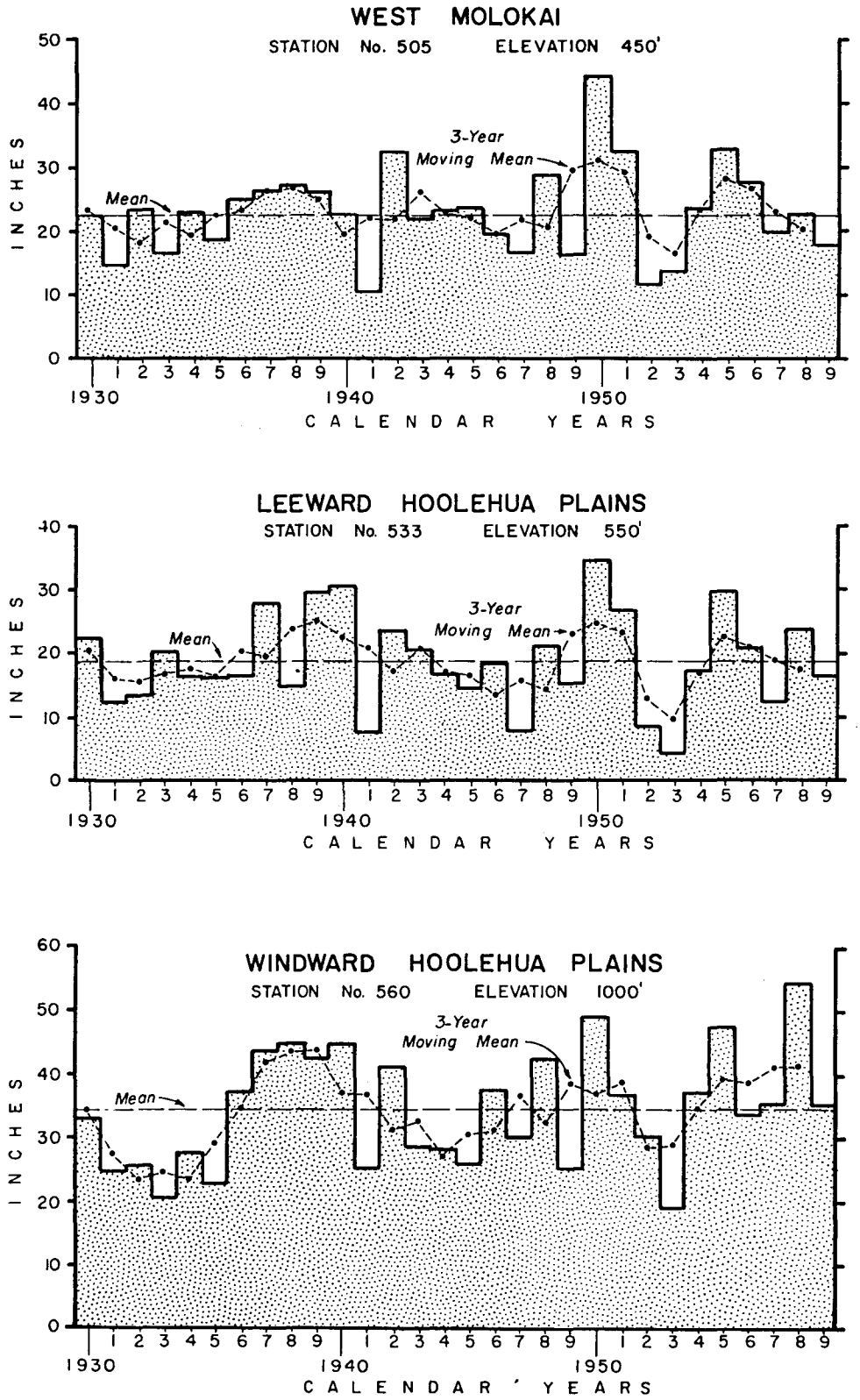
- 3.30 Active Rain Gage
- 2.30 Discontinued Rain Gage
- 10 Isohyetal Line
- 15 Estimated Isohyetal Line


PACIFIC OCEAN
PACIFIC OCEAN
Ilio Pt.
Laau Pt.
Puu Nana
Kalaupapa
Halawa
Kaunakakai Harbor
Kawela
Pukoo
Kamalo
21° 15'
21° 10'
21° 05'
21° 00'
157° 15'
157° 10'
157° 05'
157° 00'
156° 55'
156° 50'
156° 45'
LEGEND
Active Rain Gage
Discontinued Rain Gage
Isohyetal Line
Estimated Isohyetal Line
NOTE: Figure next to rain gage denotes median rainfall for period 1933 to 1957. Isohyets based on values from 43 gages.
ISOHYETAL MAP
MEDIAN ANNUAL RAINFALL
ISLAND OF MOLOKAI
NORTH
GRAPHIC SCALE IN MILES

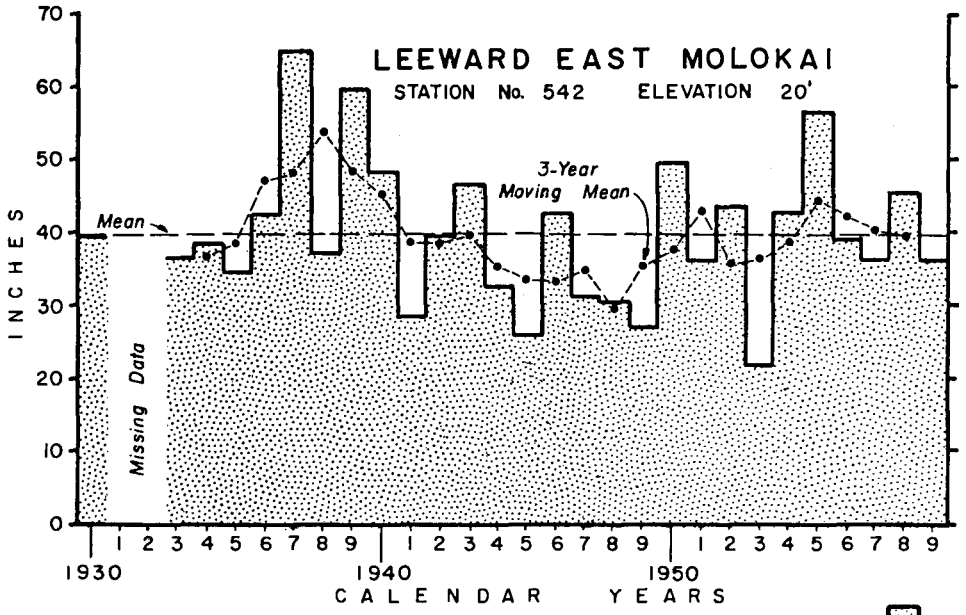
DISTRIBUTION OF MEDIAN, MAXIMUM, AND MINIMUM MONTHLY RAINFALL AT SELECTED RAIN GAGES, FOR PERIOD OF RECORD

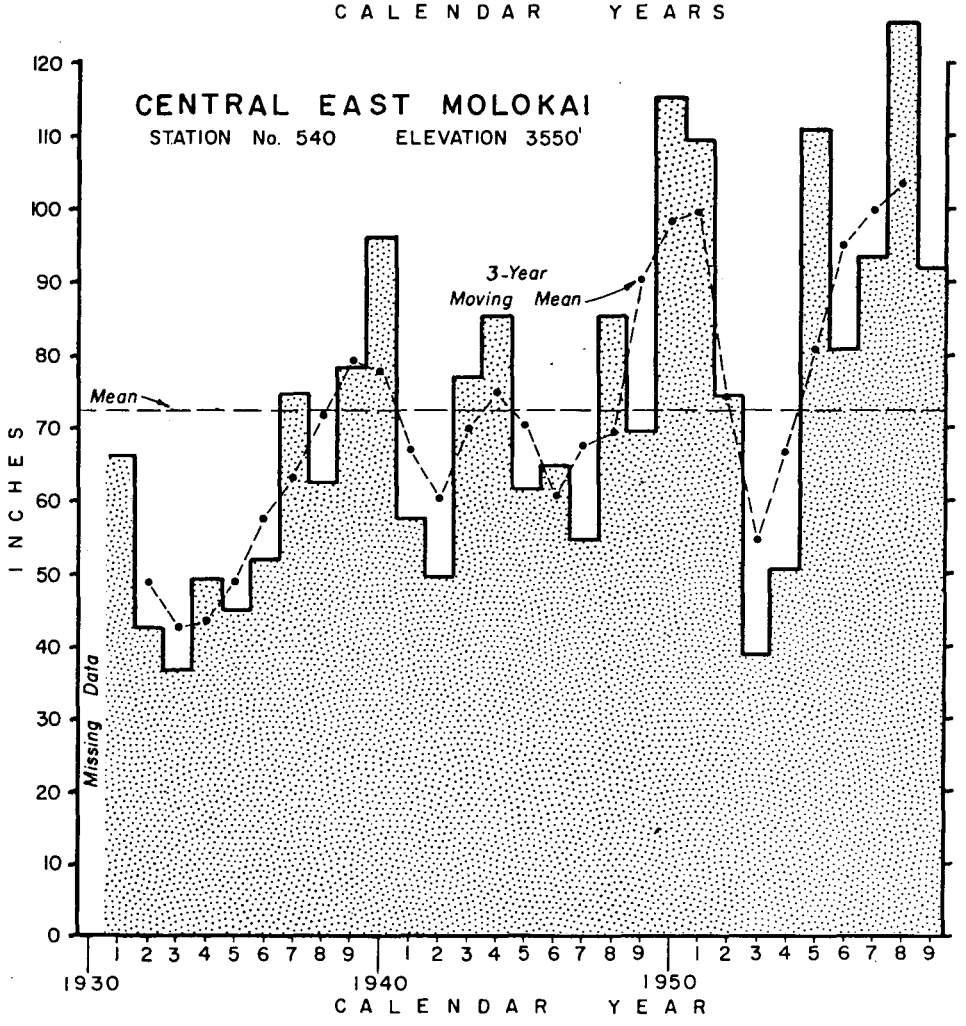


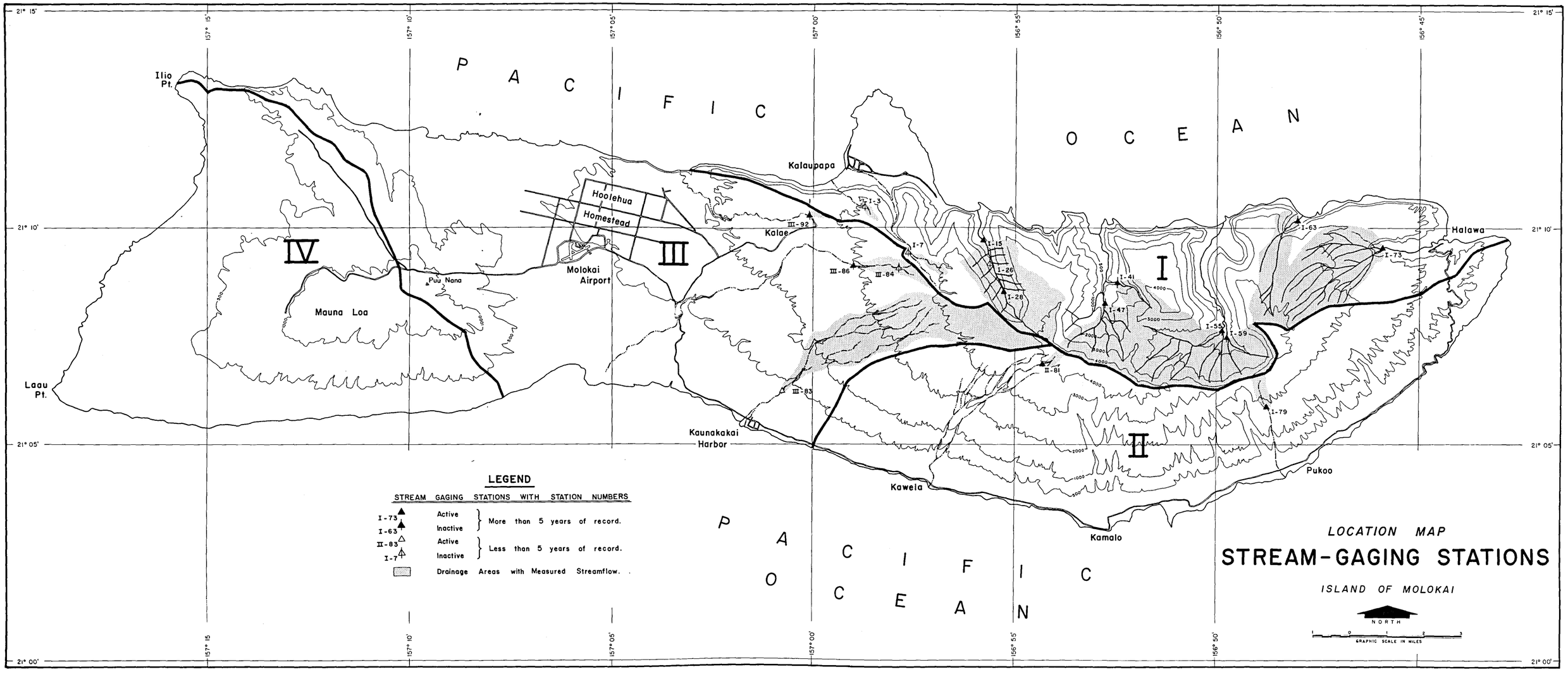
VARIATIONS IN ANNUAL RAINFALL AT SELECTED RAIN GAGES FOR THE PERIOD 1930-59

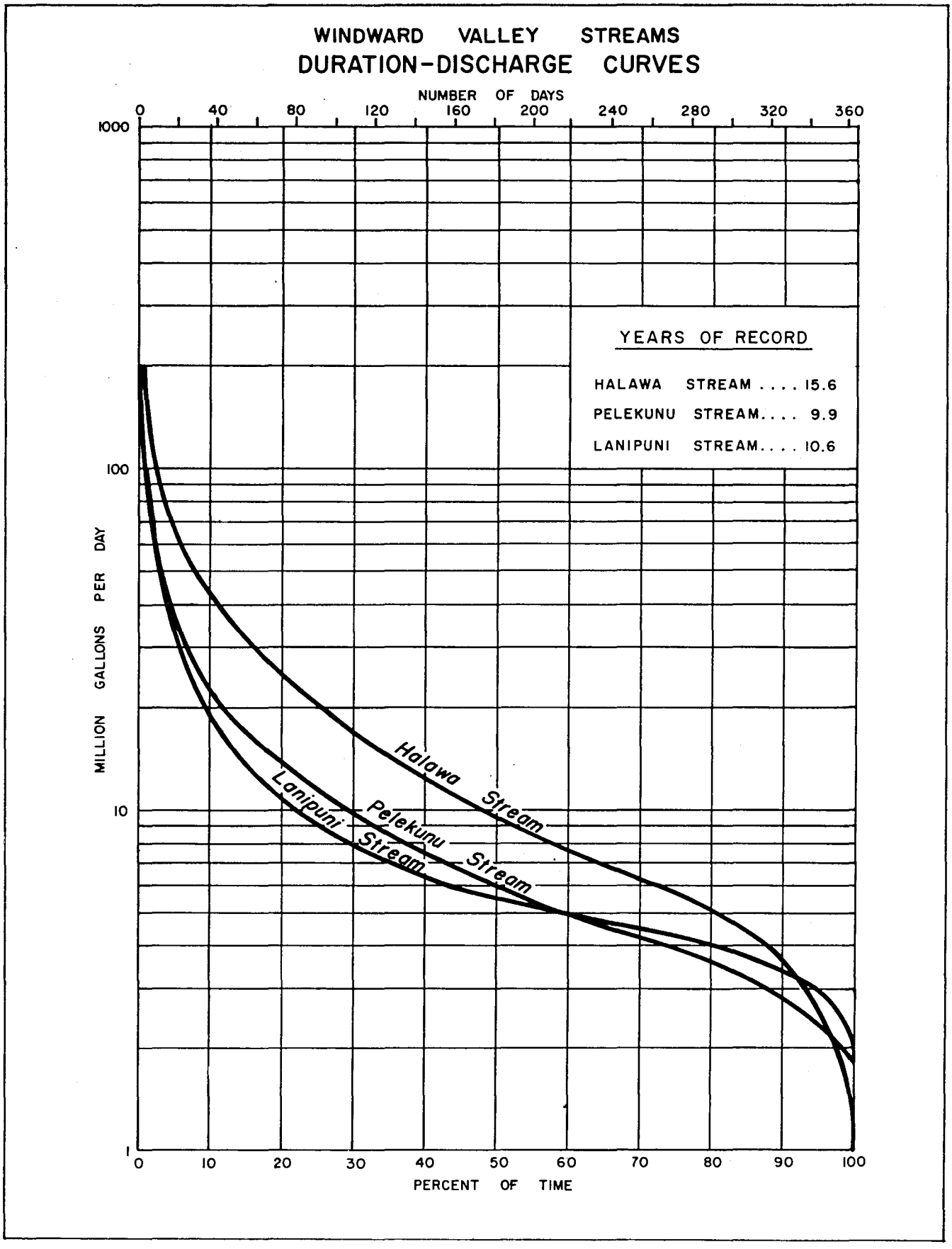


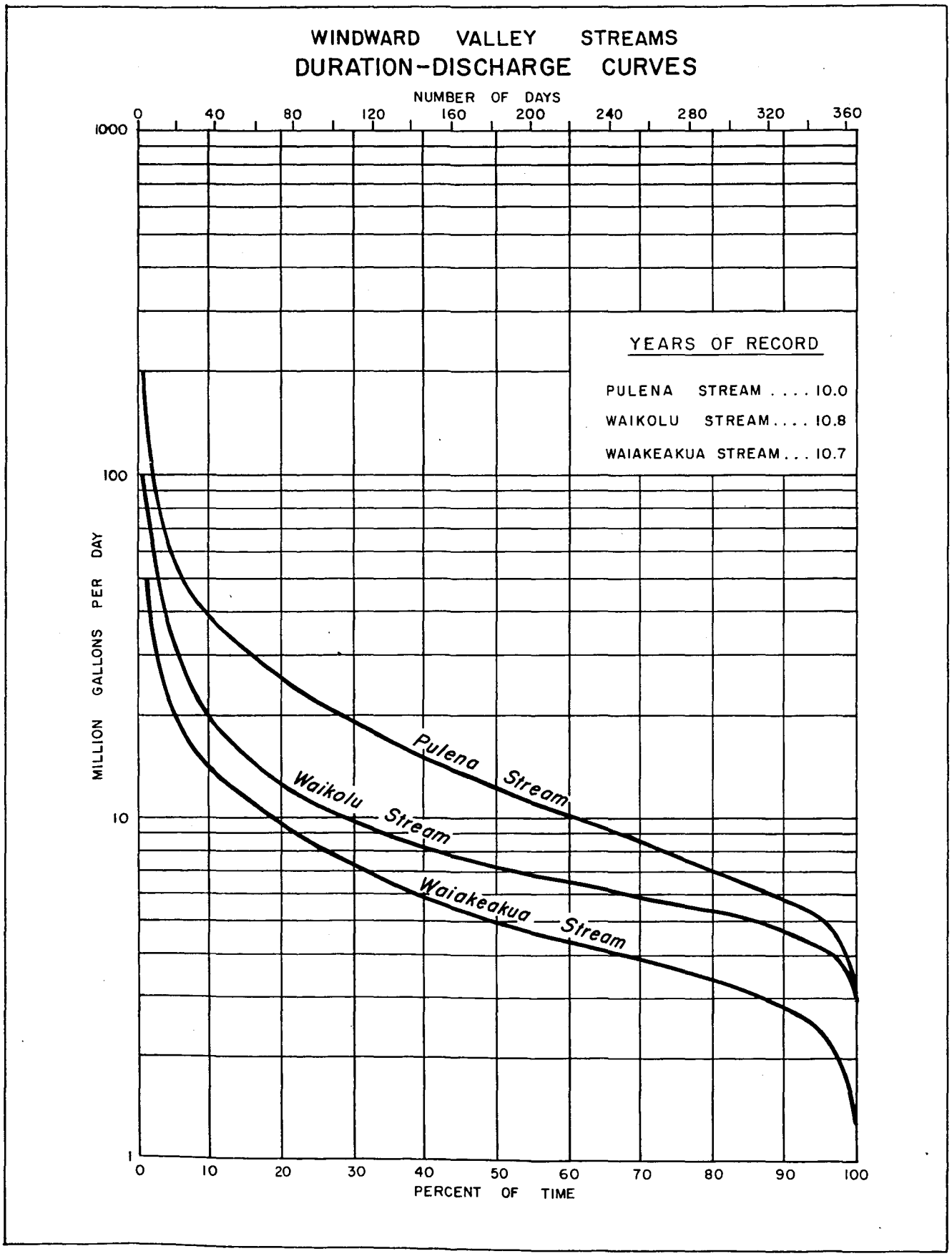
VARIATIONS IN ANNUAL RAINFALL AT SELECTED RAIN GAGES FOR THE PERIOD 1930-59






21° 15'
21° 10'
21° 05'
21° 00'
157° 15'
157° 10'
157° 05'
157° 00'
156° 55'
156° 50'
156° 45'
PACIFIC OCEAN
PACIFIC OCEAN
Ilio Pt.
Laau Pt.
Kalaupapa
Hoolehua
Homestead
Molokai Airport
Kalae
Puu Nana
Mauna Loa
Kaunakakai Harbor
Kawela
Kamalo
Pukoo
Halawa
I-3
I-7
I-15
I-26
I-28
I-41
I-47
I-55
I-59
I-63
I-73
I-79
II-81
III-83
III-84
III-86
III-92
I
II
III
IV
LEGEND
STREAM GAGING STATIONS WITH STATION NUMBERS
I-73 Active
I-63 Inactive
} More than 5 years of record.
II-83 Active
I-7 Inactive
} Less than 5 years of record.
Drainage Areas with Measured Streamflow.
LOCATION MAP
STREAM-GAGING STATIONS
ISLAND OF MOLOKAI
NORTH
GRAPHIC SCALE IN MILES


WINDWARD VALLEY STREAMS
DURATION-DISCHARGE CURVES
NUMBER OF DAYS
0
40
80
120
160
200
240
280
320
360
1000
100
10
1
MILLION GALLONS PER DAY
YEARS OF RECORD
HALAWA STREAM 15.6
PELEKUNU STREAM.... 9.9
LANIPUNI STREAM.... 10.6
Halawa Stream
Pelekunu Stream
Lanipuni Stream
0
10
20
30
40
50
60
70
80
90
100
PERCENT OF TIME


WINDWARD VALLEY STREAMS
DURATION-DISCHARGE CURVES
NUMBER OF DAYS
0
40
80
120
160
200
240
280
320
360
1000
100
10
1
MILLION GALLONS PER DAY
YEARS OF RECORD
PULENA STREAM 10.0
WAIKOLU STREAM 10.8
WAIAKEAKUA STREAM . . . 10.7
Pulena Stream
Waikolu Stream
Waiakeakua Stream
0
10
20
30
40
50
60
70
80
90
100
PERCENT OF TIME

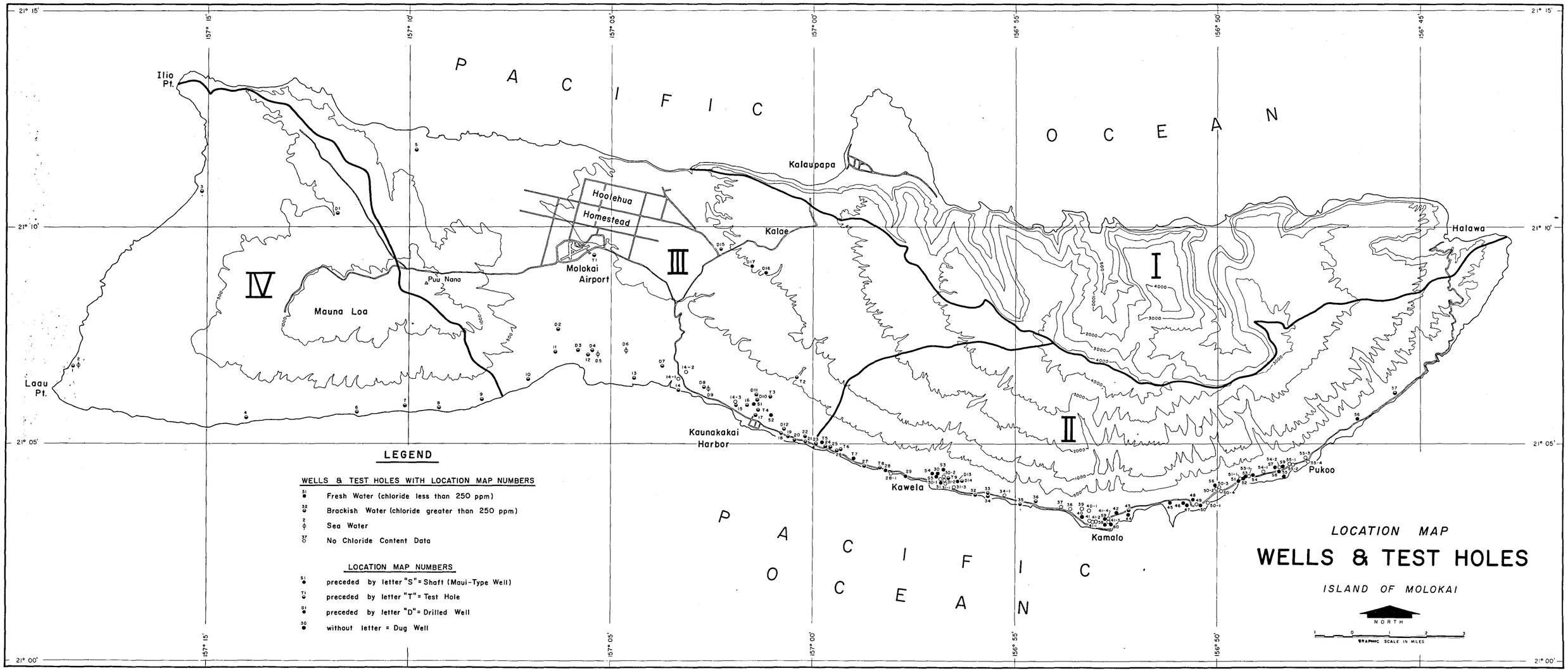

21° 15'
21° 10'
21° 05'
21° 00'
157° 15'
157° 10'
157° 05'
157° 00'
156° 55'
156° 50'
156° 45'
P A C I F I C
O C E A N
Ilio Pt.
Laau Pt.
Mauna Loa
Puu Nana
Molokai Airport
Hoolehua Homestead
Kalaupapa
Kalae
Kaunakakai Harbor
Kawela
Kamalo
Pukoo
Halawa
IV
III
II
I
LEGEND
WELLS & TEST HOLES WITH LOCATION MAP NUMBERS
Fresh Water (chloride less than 250 ppm)
Brackish Water (chloride greater than 250 ppm)
Sea Water
No Chloride Content Data
LOCATION MAP NUMBERS
preceded by letter "S" = Shaft (Maui-Type Well)
preceded by letter "T" = Test Hole
preceded by letter "D" = Drilled Well
without letter = Dug Well
LOCATION MAP
WELLS & TEST HOLES
ISLAND OF MOLOKAI
NORTH
GRAPHIC SCALE IN MILES

Table 1. INDEX TO RAIN GAGES

State key No.	USWB index No.	Station name or number	Maintained by	Hydrog. area and subarea	Latitude Longitude ° '	Elev. in feet	Period of record	Frequency of reading	Location of data	Location of summaries	Other names relocations remarks
500		Kamakaipo	Molokai Ranch	IV-2	21 07.5 157 18.0	40	1933-	After rain	(6) (7)48-	(3)	
500.1		Frear's Flat	" "	IV-1	21 06.4 157 15.6	405	1950-	" "	(6),(7)	(3)	
500.2[1]		Pokohola	" "	IV-2	21 06.8 157 16.3	390	1928-	" "	(6)33- (7)48-	(3)33-	Data msg prior to 1933; reloc. 1950 approx. ½ mi. NE
500.3		Kolo Makai	" "	IV-1	21 05.7 157 10.6	20	1950-	" "	(6),(7)	(3)	Kolo
500.4		Waikane	" "	IV-1	21 05.8 157 09.2	20	1950-	" "	(6),(7)	(3)	
500.5		Iloli	" "	III-2	21 07.2 157 06.3	30	1950-	" "	(6),(7)	(3)	
501		Gage 31	Libby	IV-2	(21 07.7) (157 16.0)	275	1947-1954	" "	(6) (7)48-	(3)48- (6)	
502		Gage 30	"	IV-2	(21 08.7) (157 15.8)	250	1947-1954	" "	(6) (7)48-	(3)48- (6)	
502.1		Puukaae	Molokai Ranch	IV-2	(21 08.7) (157 15.8)	250	1947-1954	" "	(6) (7)48-	(3)48- (6)	
503		Gage 22*	Libby	IV-2	21 07.1 157 15.3	490	1927-	" "	(6) (7)48-	(3)27-45, 52- (6)	Kaupoa Gate; Fld 29; Light-house Gate; reloc. 9/59 100' S
503.1		Gage 21	"	IV-1	(21 07.1) (157 14.6)	645	1927-1940	" "	(6)	(3)	Fld 3B
504		Gage 32	"	IV-1	(21 06.5) (157 15.0)	440	1947-1954	" "	(6) (7)48-	(3)48- (6)	
505		Gage 14	"	IV-2	21 08.7 157 14.8	450	1923-	" "	(6)25- (7)48-	(3)	Goatskin Gate
505.1		Gage 20	"	IV-2	(21 08.3) (157 14.1)	580	1927-1940	" "	(6)	(3)	Camp 3
505.2		Gage 28	"	IV-2	(21 08.6) (157 13.7)	(700)	1933-1940	" "	(6)	(3)35-40 (6)	Fld 38A Middle
511	6190	Maunaloa*	"	IV-2	21 08.2 157 12.9	1030	1923- 1940[2]-	" " Recorder	(1)	(1)24-52 (2) (3)23-43	Gage 4; Papo-haku; Camp 1; charts at PSO & FRC

Table 1. **INDEX TO RAIN GAGES** *(continued)*

State key No.	USWB index No.	Station name or number	Maintained by	Hydrog. area and subarea	Latitude Longitude ° '	Elev. in feet	Period of record	Frequency of reading	Location of data	Location of summaries	Other names relocations remarks
511.1		Gage 41	"	IV-2	21 07.7 157 13.8	860	1954-	After rain	(6),(7)	(3)	Fld 26
511.2		Gage 1	Libby	IV-1	(21 07.5) (157 12.6)	1060	1923-1940	After rain	(6)25-	(3)	Fld 34B; 3rd Gate
513		Gage 5	"	IV-2	21 10.0 157 12.8	520	1923-	" "	(6)25- (7)48-	(3)	Fld 9; Apalu Pens; Cooke's Corral; Lwr Flds 5-6; no data 1941-46; re-est. 9/47 100 yds unknown dir.
513.1		Gage 39*	"	IV-2	21 09.5 157 13.5	560	1948-	" "	(6),(7)	(3)	Fld 15
513.2		Gage 10	"	IV-2	(21 09.7) (157 12.2)	(750)	1931-1933	" "	(6)	(6)	
513.3		Gage 2	"	IV-2	(21 09.1) (157 12.3)	680	1923-1940	" "	(6)25-	(3)	Fld 13; W end Fld 1
514		Gage 40	"	IV-2	21 08.3 157 12.4	1180	1942-	" "	(6)47- (7)48-	(3)47-	Fld 12; data msg prior to 1947
517		Gage 27	"	IV-2	21 09.4 157 10.8	800	1933-	" "	(6) (7)48-	(3)35-45, 52- (6)	Fld 3
517.1		Gage 38	"	III-3	21 09.3 157 09.8	1040	1948-	" "	(6),(7)	(3)	Fld 32
517.2		Gage 42	"	IV-2	21 08.9 157 11.2	1050	1954-	" "	(6),(7)	(3)	Fld 6
518		Gage 33*	"	IV-1	21 08.2 157 10.8	1360	1947-	" "	(6) (7)48-	(3)	
518.1		Field 38B*	P.R.I.	IV-2	(21 08.4) (157 14.4)	(550)	1938-1940	Weekly	(6)	(3)	
519		Puupili	Molokai Ranch	IV-1	21 07.7 157 09.1	1260	1946	After rain	(6) (7)48-	(3)	Kaana prior to 9/57
519.1		Kaihuloa	" "	IV-1	21 06.8 157 12.8	719	1950-	" "	(6),(7)	(3)	
519.2		Kakaako	" "	IV-1	21 07.8 157 11.5	1310	1950-	" "	(6),(7)	(3)	
520		Mahana	" "	III-2	21 08.8 157 07.9	470	1933-	" "	(6) (7)48-	(3)	

521		Pipika	C.P.C.	III-2	21 09.0 157 06.5	350	1940-	Monthly & after rain	(6) (7)48-	(3)40-43, 52- (6)	Reloc. 9/58 approx. 200 yds E
522		Gage 35	Libby	III-2	21 09.1 157 07.3	400	1947-	After rain	(6) (7)48-	(3)	Fld 408
523		Gage 26*	"	III-2	21 09.7 157 06.5	450	1931-	" "	(6) (7)48-	(3)52- (6)	Fld 407
524	6534	Molokai Airport*	Aloha Airlines	III-2	21 09.5 157 05.7	445	1939	Daily+	(1)49- (2)39-46	(2)49- (3)39-45	Hoolehue Airport; Homestead Fld; USAAF 39-46[3]; no data 2/46-5/49
525		Green Flat	C.P.C.	III-2	21 08.3 157 05.7	300	1943-	Monthly & after rain	(6) (7)48-	(3)52- (6)	
526		Field 315	"	III-2	21 08.3 157 04.7	350	1934-	Daily or after rain	(3)** (6) (7)48-	(3)	
526.1		Field 315A	"	III-1	(21 08.2) (157 04.1)	450	1949-1954	Monthly & after rain	(6),(7)	(3)	
526.2		South-Exp. "B" Station	"	III-1	(21 07.8) (157 04.0)	(300)	1928-1933	Monthly & after rain	(6)	(6)	
527		Gage 24*	Libby	III-2	21 09.8 157 04.4	600	1929-	After rain	(6)32- (7)48-	(3)29-31, 52- (6)32-	Hoolehua (Libby)
527.1	2100	Hoolehua	B.A. Hussey, Jr.	III-2	21 09.9 157 03.0	840	1926-1955	Daily	(1)	(1)26-52 (2)	
528		Field 322*	C.P.C.	III-2	21 08.8 157 04.3	570	1928- 1943-1954	Daily or after rain Recorder	(3)** (6) (7)48-	(3)	Kanaio; charts at PSO & FRC
528.1		Block 2	"	III-2	21 09.3 157 04.7	500	1956-	Monthly & after rain	(6),(7)	(3)	
529		Field 325	"	III-1	21 07.7 157 03.9	320	1929-	Monthly & after rain	(6) (7)48-	(3)	
530		Field 302	"	III-2	21 09.6 157 03.4	770	1933-	Monthly & after rain	(6)36- (7)48-	(3)52- (6)36-	Data msg prior to 1936
530.1		Gage 37	Libby	III-2	21 09.9 157 03.2	790	1948-	After rain	(6),(7)	(3)	Fld 403
531		Field 305	C.P.C.	III-1	21 09.1 157 03.1	875	1940- 1940-1954	Monthly & after rain Recorder	(6) (7)48-	(3)52- (6)	Rec. gage called Kualapuu; charts at PSO & FRC
532		Field 312	"	III-1	21 08.1 157 03.4	475	1933-	Monthly & after rain	(6) (7)48-	(3)52- (6)	
533		Field 309	C.P.C.	III-1	21 08.0 157 02.7	550	1928-	Monthly & after rain	(6) (7)48-	(3)	Manawainui (CPC)
533.1		Field 308	"	III-1	21 08.4 157 01.7	820	1953-	Monthly & after rain	(6),(7)	(3)	

Table 1. INDEX TO RAIN GAGES *(continued)*

State key No.	USWB index No.	Station name or number	Maintained by	Hydrog. area and subarea	Latitude Longitude ° '	Elev. in feet	Period of record	Frequency of reading	Location of data	Location of summaries	Other names relocations remarks
534	4778	Kualapuu*	"	III-1	21 09.3 157 02.2	870	1899- 1955-	Daily Recorder	(1)	(1)00-52 (2)	CPC main office; reloc. 200' NE 5/55; charts at PSO & FRC
535		Field 304	"	III-1	21 08.7 157 02.1	750	1929-	Monthly & after rain	(3)** (6) (7)48-	(3)38-45, 52- (6)	Pekeo
536	3541	Kaunakakai	Molokai Ranch	III-1	21 05.6 157 01.4	10	1931-	After rain	(1)55- (6)33- (7)48-	(2)33- [4](3)31-32, 38-45, 53-	
536.1		Kanoa	" "	II-2	21 04.3 156 57.7	40	1950-1957	" "	(6),(7)	(3)	
536.2		Manawainui	" "	III-1	21 06.9 157 05.0	20	1957-	" "	(6),(7)	(3)	
536.3		Oliwai	" "	III-1	21 06.7 157 04.3	75	1950-	" "	(6),(7)	(3)	
537		Poholua	" "	III-1	21 08.6 156 58.4	2150	1930-	Weekly & after rain	(6)33- (7)48-	(3)33-	Data msg prior to 1933
537.1		Kakalehale	" "	III-1	21 08.1 156 59.9	1230	1957-	Weekly & after rain	(6),(7)	(3)	
537.2		Makakupaia	" "	II-2	21 06.6 156 56.8	2400	1957-	After rain	(6),(7)	(3)	
540		Waikolu	" "	III-1	21 07.8 156 55.4	3550	1930-	Weekly & after rain	(6) (7)48-	(3)	
540.1		Waikolu (USGS)	U.S.G.S.	I-6	21 08.7 156 55.3	900	1957-	3 or 4 times yrly	(6),(7)	(6)	
541		Kawela	Molokai Ranch	II-2	21 06.7 156 54.3	3650	1946-	Weekly & after rain	(6) (7)48-	(3)	
541.1		Pepeopae	U.S.G.S.	II-2	21 07.2 156 54.2	4200	1956-	3 or 4 times yrly	(6),(7)	(6)	
542	6138	Mapulehu*	H.S.P.A.	II-1	21 04.2 156 48.4	20	1892-	Daily	(1)	(1)92-52 (2)	Experiment Station HSPA; Pukoo (Conradt); Molokai Substation; data msg 1900-05, 13-20; reloc. 5/59 30' E

542.1	8549	Puuohoku Ranch	Puuohoku Ranch	I-1	21 156	09.0 44.1	710	1933-	"	(1)55-56, 59- (2)33-42 (6)57-	(2)33-42, 55-56, 59- (3)43-45, 57-	Data msg 1946-55
542.2		Halawa	D.K. Kalaau	I-1	(21 (156	10.0) 45.0)	200	1930-1934	"	(1)	(2)	
542.3		Mapulehu Mauka	C.C. Conradt	II-1	(21 (156	04.3) 49.6)	650	1907-1912	Monthly	(1)	(1)	
542.4	3045W	Kamalo	F.H. Foster	II-1	(21 (156	03.6) 52.0)	60	1923-1928	Daily	(1)	(1)	
542.5		Puu Kahea	Puuohoku Ranch	II-1	21 156	08.2 46.9	2340	1933-(1934)	Wkly-irreg.	(3)33-34	(3)33-34	Keahuoku; 12/33-2/34 only
543		Pelekuna	U.S.G.S.	I-5	21 156	08.2 52.7	550	1939-1957	3 or 4 times yrly	(6) (7)48-	(3)	
544		Puu Lua Wailau	"	I-3	21 156	06.6 49.1	2900	1922-	3 or 4 times yrly	(1)22-27 (6) (7)48-	(2)22-27 (3)	
550		Kepuhi	Molokai Ranch	IV-2	21 157	11.4 14.9	40	1933-	After rain	(6) (7)48-	(3)	Data msg 1953-54
550.1		Kalae Oka Ilio	" "	IV-2	21 157	12.6 13.2	530	1933-	" "	(6) (7)50-	(3)	Data msg 1934-49
551		Keonelele Pens	" "	IV-2	21 157	11.8 12.4	560	1933-	" "	(6) (7)48-	(3)	Keonelele Makai
551.1		Apalu	" "	IV-2	21 157	10.6 13.1	500	1950-	" "	(6),(7)	(3)	
551.2		Keonelele Trees	" "	III-3	21 157	10.6 10.9	680	1950-	" "	(6),(7)	(3)	Keonelele Mauka
551.3		Moomomi	" "	III-3	21 157	10.4 09.3	370	1934-	" "	(6) (7)50-	(3)	Data msg 1935-49
551.4		Moomomi Makai	" "	III-3	21 157	11.7 09.8	20	1959	" "	(6),(7)	(3)	
552		Gage 29	Libby	IV-2	21 157	10.6 11.4	700	1947-	" "	(6) (7)48-	(3)	Fld 31
554		Moomomi (CPC)	C.P.C.	III-3	21 157	10.7 08.0	300	1936-	Monthly & after rain	(6) (7)48-	(3)52- (6)	Momomi
555		Gage 36	Libby	III-3	21 157	10.2 06.8	410	1947-	After rain	(6) (7)48-	(3)	Fld 406
556	2110	Hoolehua (CPC)	C.P.C.	III-3	21 157	10.2 06.5	420	1930-	Weekly & after rain	(1)	(1)30-52 (2)	Lot 122; Homestead
557		Gage 23	Libby	III-3	21 157	10.4 05.1	600	1928-	After rain	(6) (7)48-	(3)	Fld 402
557.1		Block 7*	C.P.C.	III-3	21 157	10.4 05.4	550	1956-	Monthly & after rain	(6),(7)	(3)	
558		Gage 34	Libby	III-3	21 157	10.7 04.2	725	1947-	After rain	(6) (7)48-	(3)	Fld 401

Table 1. INDEX TO RAIN GAGES *(continued)*

State key No.	USWB index No.	Station name or number	Maintained by	Hydrog. area and subarea	Latitude Longitude ° '	Elev. in feet	Period of record	Frequency of reading	Location of data	Location of summaries	Other names relocations remarks
558.1		Block 3	C.P.C.	III-3	21 11.0 157 05.1	530	1949-	Monthly & after rain	(6),(7)	(3)	
559		Maalehua	Molokai Ranch	III-2	21 09.8 157 01.4	1250	1933-	After rain	(6) (7)48-	(3)	
559.1		Mimo	" "	III-3	21 10.7 157 01.7	1230	1950-	" "	(6),(7)	(3)	
559.2		Field 452	C.P.C.	III-3	(21 10.5) (157 00.5)	(1450)	1949-1956	Monthly & after rain	(6),(7)	(3)	
559.3		Field 454	"	III-1	21 09.9 156 59.9	1720	1949-	Monthly & after rain	(6),(7)	(3)	
559.4		Meyer Lake*	U.S.G.S.	III-1	(21 10.0) (156 59.0)	2020	1931-1932	Monthly	(2),(3)	(3)	
560		Field 301*	C.P.C.	III-2	21 10.2 157 02.3	1000	1928-	Monthly & after rain	(6) (7)48-	(3)	
561		Field 501	"	III-3	21 11.0 157 01.5	1250	1932-	Monthly & after rain	(6)33- (7)48-	(3)	
562	4645	Kipu	"	III-2	21 10.0 157 01.3	1230	1930- 1943-1954	Monthly & after rain Recorder	(1)	(1)30-52 (2)	Charts at PSO & FRC
562.1		Field 455	"	III-3	(21 10.6) (157 01.5)	(1200)	1929-1933	Monthly & after rain	(6)	(3)29-30 (6)	Kalaupapa (CPC)
562.2		Field 450	"	III-1	(21 09.6) (157 01.0)	(1350)	1928-1932	Monthly & after rain	(6)	(6)	Kalae
563	2896	Kalaupapa*	Civil Air Patrol	I-7	21 11.5 156 59.0	30	1933-1959	Daily	(1)	(1)33-52 (2)	
563.1	2905W	Kalawao*	Father Martin	I-7	(21 10.8) (156 57.0)	70	1905-1932	"	(1)	(1)	

* Also has other weather instrumentation.
** Current but original date unknown.
\+ Beginning and ending of precipitation reported on WB Form WBAN-10 (CAA).
[1] 500A in "A Key to Rain Gages in Hawaii" (1948).
[2] No recorder 3/47-4/55.
[3] 1940-46 on file NWRC, 1939-41 data in USAAF pub., "Weather Conditions in Hawaii" (The Air Corps Tactical School, Maxwell Field, Alabama, 1942).
[4] Annual totals only for 1931-32.

LOCATION OF DATA and LOCATION OF SUMMARIES

(1) USWB-published
(2) USWB-not published
(3) Division of Water and Land Development
(4) HSPA
(5) PRI

Abbreviation	Name
CPC	California Packing Corporation
FRC	Federal Record Center
HSPA	Hawaiian Sugar Planters' Association
NWRC	National Weather Record Center
PRI	Pineapple Research Institute

(6) On file with observer (company, agency, individual, etc.) maintaining and/or reading instrument.
(7) PRI-HSPA reporting form in use from January, 1948, and available at both Division of Water and Land Development and HSPA.

PSO	Pacific Supervisory Office
USAAF	United States Army Air Force
USGS	United States Geological Survey
USWB	United States Weather Bureau

Table 2. ALPHABETICAL LIST OF RAIN GAGES

Name or number	State key No.
Apalu	551.1
Apalu Pens	513
Block 2 (CPC)	528.1
Block 3 (CPC)	558.1
Block 7 (CPC)	557.1
CPC Main Office	534
Camp 1 (Libby)	511
Camp 3 (Libby)	505.1
Cooke's Corral	513
Experiment Station H.S.P.A.	542
Field 3 (Libby)	517
Field 3B (Libby)	503.1
Field 5 (Libby)	518
Field 6 (Libby)	517.2
Field 9 (Libby)	513
Field 12 (Libby)	514
Field 13 (Libby)	513.3
Field 15 (Libby)	513.1
Field 26 (Libby)	511.1
Field 29 (Libby)	503
Field 31 (Libby)	552
Field 32 (Libby)	517.1
Field 34B (Libby)	511.2
Field 38A Middle (Libby)	505.2
Field 38B (PRI-Libby)	518.1
Field 301 (CPC)	560
Field 302 (CPC)	530
Field 304 (CPC)	535
Field 305 (CPC)	531
Field 308 (CPC)	533.1
Field 309 (CPC)	533
Field 312 (CPC)	532
Field 315 (CPC)	526
Field 315A (CPC)	526.1
Field 322 (CPC)	528
Field 325 (CPC)	529
Field 401 (Libby)	558
Field 402 (Libby)	557
Field 403 (Libby)	530.1
Field 406 (Libby)	555
Field 407 (Libby)	523
Field 408 (Libby)	522
Field 450 (CPC)	562.2
Field 452 (CPC)	559.2
Field 454 (CPC)	559.3
Field 455 (CPC)	562.1
Field 501 (CPC)	561
Frear's Flat	500.1
Gage 1 (Libby)	511.2
Gage 2 (Libby)	513.3
Gage 4 (Libby)	511
Gage 5 (Libby)	513
Gage 10 (Libby)	513.2
Gage 14 (Libby)	505
Gage 20 (Libby)	505.1
Gage 21 (Libby)	503.1
Gage 22 (Libby)	503
Gage 23 (Libby)	557
Gage 24 (Libby)	527
Gage 26 (Libby)	523
Gage 27 (Libby)	517
Gage 28 (Libby)	505.2
Gage 29 (Libby)	552
Gage 30 (Libby)	502
Gage 31 (Libby)	501
Gage 32 (Libby)	504
Gage 33 (Libby)	518
Gage 34 (Libby)	558
Gage 35 (Libby)	522
Gage 36 (Libby)	555
Gage 37 (Libby)	530.1
Gage 38 (Libby)	517.1
Gage 39 (Libby)	513.1
Gage 40 (Libby)	514
Gage 41 (Libby)	511.1
Gage 42 (Libby)	517.2
Goatskin Gate	505
Green Flat	525
Halawa	542.2
Homestead	556
Homestead Field	524
Hoolehua	527.1
Hoolehua (CPC)	556
Hoolehua (Libby)	527
Hoolehua Airport	524
Iloli	500.5
Kaana	519
Kaihuloa	519.1
Kakaako	519.2
Kakalehale	537.1
Kalae	562.2
Kalae Oka Ilio	550.1
Kalaupapa	563
Kalaupapa (CPC)	562.1
Kalawao	563.1
Kamakaipo	500
Kamalo	542.4
Kanaio	528
Kanoa	536.1
Kaunakakai	536
Kaupoa Gate	503
Kawela	541
Keahuoku	542.5
Keonelele Makai	551
Keonelele Mauka	551.2
Keonelele Pens	551
Keonelele Trees	551.2
Kepuhi	550
Kipu	562
Kolo	500.3
Kolo Makai	500.3
Kualapuu	534
Lighthouse Gate	503
Lot 122	556
Lower Fields 5-6	513
Maalehua	559
Mahana	520
Makakupaia	537.2
Manawainui	536.2
Manawainui (CPC)	533
Mapulehu	542
Mapulehu Mauka	542.3
Maunaloa	511
Meyer Lake	559.4
Mimo	559.1
Molokai Airport	524
Molokai Substation	542
Momomi	554
Moomomi	551.3
Moomomi (CPC)	554
Moomomi Makai	551.4
Oliwai	536.3
Papohaku	511
Pekeo	535
Pelekuna	543
Pepeopae	541.1
Pipika	521
Poholua	537
Pokohola	500.2
Pukoo (Conradt)	542
Puukaae	502.1
Puu Kahea	542.5
Puu Lua Wailau	544
Puuohoku Ranch	542.1
Puupili	519
South-Exper. "B" Station	526.2
Third Gate	511.2
Waikane	500.4
Waikolu	540
Waikolu (USGS)	540.1
West End Field 1 (Libby)	513.3

Table 3. MEDIAN, MAXIMUM, AND MINIMUM MONTHLY AND ANNUAL RAINFALL AT GAGES WITH RECORDS OF 10 YEARS OR MORE, FOR PERIOD OF RECORD

State key No.	No. of years		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
		Max.	12.4	14.9	9.2	4.6	1.1	3.5	1.4	2.3	5.0	8.7	6.9	5.6	26.7
500	20	Med.	1.3	1.2	1.1	0.4	0.0	0.0	0.0	0.0	0.0	0.7	1.1	1.1	13.7
		Min.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8
		Max.	13.5	6.7	10.4	6.3	1.9	0.3	1.5	7.2	3.4	7.7	9.5	6.4	32.6
500.2	21	Med.	2.1	0.3	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.2	0.5	1.2	9.8
		Min.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1
		Max.	13.3	14.5	13.7	9.8	2.4	3.4	3.4	3.3	5.5	13.6	8.5	12.0	33.5
503	20	Med.	2.7	2.0	1.7	1.6	0.6	0.4	0.4	0.4	0.6	1.0	1.3	1.8	20.6
		Min.	0.1	0.2	0.0	T	0.0	0.0	T	0.0	0.0	0.0	0.1	0.2	5.2
		Max.	5.8	10.0	4.4	10.6	3.1	1.8	1.1	3.2	3.9	8.8	7.7	11.4	33.7
503.1	13	Med.	2.5	2.7	2.3	1.4	0.8	0.5	0.4	0.3	1.0	1.7	1.3	1.5	20.1
		Min.	0.4	0.2	0.5	0.1	T	0.1	T	0.1	0.4	0.1	0.4	0.5	10.3
		Max.	15.3	9.2	14.2	10.4	2.7	4.3	5.0	4.3	5.2	8.7	9.1	13.3	44.2
505	33	Med.	2.0	1.7	2.1	1.0	1.1	0.3	0.5	0.5	0.8	1.3	1.2	2.4	22.7
		Min.	0.1	0.2	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.3	0.6	10.1
		Max.	5.9	8.6	4.2	10.8	3.5	4.0	1.7	3.8	5.9	9.2	9.7	14.1	35.6
505.1	13	Med.	2.2	3.0	2.8	1.6	1.6	0.4	0.5	0.5	1.2	1.5	1.6	2.3	23.5
		Min.	0.4	0.3	1.1	0.2	0.2	0.1	0.1	0.2	0.1	0.2	0.4	0.4	12.9
		Max.	15.4	10.4	19.4	12.5	4.9	4.1	5.2	5.7	4.0	11.2	11.7	14.2	50.9
511	33	Med.	2.3	2.7	2.4	1.6	1.0	0.4	0.7	0.9	0.9	1.4	1.8	2.6	27.8
		Min.	0.1	0.4	0.3	0.3	0.1	T	0.2	0.1	0.1	0.1	0.4	0.7	13.0
		Max.	6.0	9.5	4.0	10.3	4.2	3.1	2.4	3.8	5.9	9.6	9.2	17.5	40.7
511.2	15	Med.	2.4	2.5	2.9	1.7	1.1	0.4	0.7	0.5	1.4	1.8	2.0	2.4	24.7
		Min.	0.9	0.4	0.8	0.4	0.1	T	0.1	T	0.2	0.3	0.4	0.6	10.9
		Max.	14.2	10.8	15.5	9.5	4.1	2.9	3.2	4.1	3.5	8.7	11.5	10.5	45.2
513	24	Med.	2.2	2.4	2.0	1.3	0.9	0.3	0.6	0.7	0.5	1.0	2.1	2.5	22.3
		Min.	0.5	0.2	0.3	0.3	0.0	0.0	0.1	0.0	0.0	0.1	0.4	0.5	12.9
		Max.	6.3	9.1	4.8	8.5	4.4	4.6	3.9	5.0	4.0	12.4	10.7	13.4	36.5
513.3	13	Med.	2.5	2.1	2.9	1.7	1.7	0.3	0.7	0.9	1.4	1.8	1.6	3.0	26.5
		Min.	0.6	0.5	0.9	0.4	T	0.2	0.1	0.1	0.3	0.4	0.4	0.6	15.6
		Max.	13.0	8.0	20.0	5.0	3.1	2.5	2.2	2.9	3.0	2.7	16.8	8.7	50.7
514	10	Med.	5.8	3.8	1.3	1.7	1.2	0.3	0.5	0.7	0.6	1.0	3.5	3.4	29.0
		Min.	1.4	0.7	0.3	0.5	0.0	T	0.2	T	0.1	T	0.6	1.1	13.1
		Max.	12.2	15.4	18.4	13.6	4.9	3.8	3.7	3.3	2.8	10.5	15.0	8.7	52.2
517	25	Med.	2.9	2.9	2.9	1.7	0.8	0.4	0.8	0.7	0.5	1.3	2.5	3.6	25.3
		Min.	T	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.0	12.2
		Max.	13.5	11.3	20.7	5.7	2.1	2.0	2.5	2.5	2.5	2.9	13.9	9.1	49.7
518	10	Med.	6.2	3.4	1.7	1.6	0.7	0.2	0.7	0.8	0.8	0.6	3.5	4.1	29.6
		Min.	1.3	0.8	0.2	0.3	0.0	0.0	0.1	0.0	0.0	0.1	0.3	1.0	9.8
		Max.	9.4	12.5	6.1	3.8	2.5	1.0	0.8	4.3	1.6	2.1	7.1	6.2	32.0
519	12	Med.	2.5	1.7	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.9	13.1
		Min.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3
		Max.	8.9	15.9	9.5	13.4	1.6	1.9	2.1	2.7	1.5	11.7	11.0	9.0	31.4
520	17	Med.	1.9	1.3	2.6	1.5	0.0	0.0	0.0	0.6	0.0	0.6	1.8	2.0	20.8
		Min.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4
		Max.	12.2	7.7	19.9	11.8	3.0	0.8	1.4	1.3	0.6	11.9	11.0	8.5	33.7
521	17	Med.	2.2	1.7	0.7	0.5	0.2	0.0	T	0.2	0.1	0.4	1.7	2.1	17.4
		Min.	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	4.4
		Max.	8.5	7.7	17.7	6.3	1.0	0.7	1.4	1.8	1.1	2.2	9.4	7.7	36.8
522	10	Med.	4.5	2.2	1.0	1.2	0.5	0.2	0.4	0.6	0.2	0.4	2.4	3.7	22.6
		Min.	0.6	0.5	0.0	T	T	0.0	0.0	0.0	0.0	0.1	0.1	0.5	5.9
		Max.	17.1	14.9	16.0	14.2	5.0	1.6	3.1	2.5	1.3	12.8	9.3	8.3	37.2
523	27	Med.	2.1	1.9	2.6	1.3	0.6	0.2	0.5	0.4	0.3	1.0	1.6	2.3	21.5
		Min.	0.2	0.4	T	0.1	0.1	0.0	0.0	0.0	0.0	T	0.1	0.7	7.0

Table 3. MEDIAN, MAXIMUM, AND MINIMUM MONTHLY AND ANNUAL RAINFALL AT GAGES WITH RECORDS OF 10 YEARS OR MORE, FOR PERIOD OF RECORD *(continued)*

State key No.	No. of years		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
		Max.	10.2	7.3	19.3	10.4	3.7	1.5	2.0	2.8	1.9	10.8	9.2	12.6	48.4
524	14	Med.	3.2	2.1	2.8	1.1	0.8	0.2	0.6	0.5	0.3	1.0	2.4	3.0	22.7
		Min.	0.4	0.4	0.5	T	0.1	T	0.1	0.1	T	0.1	0.1	1.1	11.4
		Max.	8.4	6.9	17.3	9.3	1.6	1.0	0.4	1.3	1.3	2.1	11.0	8.7	33.7
525	14	Med.	3.1	1.5	0.6	0.4	0.2	0.0	0.1	T	T	0.2	1.2	1.9	16.3
		Min.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7
		Max.	10.3	11.3	14.9	9.2	3.2	1.4	0.8	1.5	1.5	6.5	10.3	8.7	27.9
526	24	Med.	2.0	1.1	1.7	0.5	0.2	0.0	0.0	0.1	T	0.5	0.8	1.5	15.0
		Min.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8
		Max.	11.0	11.8	17.9	15.1	7.1	4.7	5.5	2.8	4.0	16.0	13.5	13.0	59.9
527	27	Med.	3.8	3.5	4.1	2.4	2.3	1.4	1.3	1.1	1.1	2.2	2.7	3.8	34.5
		Min.	0.0	0.7	0.7	0.0	0.1	0.2	0.1	0.5	0.0	0.0	0.0	0.8	16.5
		Max.	8.8	11.6	16.8	9.0	4.1	1.4	1.8	1.5	2.4	6.6	12.2	8.2	31.9
528	30	Med.	2.1	1.4	1.6	0.7	0.5	0.1	0.1	0.3	0.2	0.7	1.0	1.8	17.1
		Min.	T	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.8
		Max.	9.0	10.7	17.5	9.0	3.1	1.4	0.8	1.6	2.6	7.4	11.9	7.8	30.9
529	28	Med.	1.8	1.3	1.5	0.2	0.2	0.0	T	T	T	0.5	0.7	1.6	15.2
		Min.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1
		Max.	9.6	13.1	16.4	12.3	5.3	2.0	2.0	2.4	2.0	8.2	13.7	8.6	42.4
530	21	Med.	3.6	2.2	2.2	1.6	0.9	0.2	0.4	0.6	0.2	0.9	2.2	2.7	23.6
		Min.	0.1	0.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.9	8.4
		Max.	11.5	9.9	19.1	11.5	3.4	1.4	1.6	1.8	2.3	6.5	13.8	8.0	41.4
531	17	Med.	3.6	2.0	1.7	1.4	1.0	0.2	0.5	0.5	0.2	1.1	1.7	3.0	23.0
		Min.	0.3	0.5	0.6	T	0.0	T	0.1	0.0	0.0	0.1	0.3	0.6	10.3
		Max.	9.1	15.7	18.5	9.4	4.6	0.7	1.1	2.4	2.6	6.6	12.7	8.6	35.5
532	24	Med.	2.9	1.2	1.9	0.7	0.3	T	0.1	0.1	0.1	0.6	1.3	1.6	16.5
		Min.	0.2	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	5.5
		Max.	11.1	12.3	16.3	9.9	4.0	1.0	0.8	2.3	2.5	7.4	11.8	8.3	34.5
533	30	Med.	2.3	1.6	1.8	0.7	0.4	T	0.1	0.1	T	0.6	1.1	1.8	17.0
		Min.	T	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2
		Max.	26.2	23.6	20.4	12.2	6.2	2.5	2.9	3.7	3.6	8.4	16.1	15.7	59.3
534	58	Med.	3.9	3.1	3.4	2.4	1.2	0.6	0.6	0.6	0.8	1.5	2.6	3.8	30.1
		Min.	0.3	0.2	0.5	0.1	T	0.0	0.1	0.0	T	0.1	0.6	0.3	13.2
		Max.	12.5	12.1	15.0	10.5	4.8	0.9	1.3	2.8	3.1	7.5	10.7	8.6	33.3
535	28	Med.	2.7	1.9	2.3	1.3	0.5	0.1	0.2	0.2	0.2	0.9	1.6	2.6	20.6
		Min.	0.1	T	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	6.9
		Max.	6.8	9.9	12.7	5.4	3.1	T	1.5	1.4	1.4	8.1	12.2	8.7	29.2
536	25	Med.	2.2	0.8	1.0	0.1	0.2	0.0	0.0	0.0	0.0	0.2	0.6	1.1	11.6
		Min.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8
		Max.	17.0	27.7	20.9	29.8	6.4	4.5	5.3	6.2	5.9	15.2	12.9	14.1	68.8
537	25	Med.	5.1	3.3	4.5	2.9	1.9	0.9	1.6	1.5	0.4	2.0	2.8	4.1	38.5
		Min.	T	0.1	0.8	0.1	0.1	0.0	T	T	0.0	0.0	0.0	0.2	18.0
		Max.	22.2	33.2	27.9	16.9	12.6	6.8	9.0	12.2	9.0	19.1	26.4	25.0	115.8
540	27	Med.	6.2	5.7	7.5	5.4	4.6	2.1	2.7	3.2	1.7	3.3	5.1	7.8	66.5
		Min.	0.1	0.9	0.0	0.6	0.2	0.3	0.1	0.1	T	T	0.0	2.4	36.6
		Max.	17.6	27.1	27.4	8.6	7.9	10.3	13.4	13.0	4.1	12.0	18.7	27.1	124.9
541	11	Med.	9.2	3.2	4.3	4.0	4.7	3.4	4.2	4.8	2.7	4.2	3.5	6.4	73.2
		Min.	2.1	1.0	1.2	2.5	2.0	0.8	1.9	0.5	0.3	0.3	0.0	2.5	28.5
		Max.	15.4	13.8	11.0	15.9	6.2	4.6	7.7	7.7	7.2	9.2	11.1	12.9	64.8
542	38	Med.	3.7	3.4	3.2	2.2	2.2	2.1	2.5	2.4	1.9	3.0	2.9	4.2	40.7
		Min.	0.0	0.1	0.7	0.6	0.3	0.5	0.8	0.7	0.0	0.8	0.1	1.1	19.0
		Max.	9.0	11.2	13.3	9.3	8.2	2.9	3.7	5.0	3.6	14.5	9.0	9.9	59.3
542.1	10	Med.	4.5	3.1	5.1	1.9	2.3	1.7	2.2	2.7	1.9	5.2	2.5	3.1	43.3
		Min.	1.0	1.1	2.0	0.4	0.3	0.4	1.2	1.1	0.8	0.5	1.6	1.9	25.7

Table 3. MEDIAN, MAXIMUM, AND MINIMUM MONTHLY AND ANNUAL RAINFALL AT GAGES WITH RECORDS OF 10 YEARS OR MORE, FOR PERIOD OF RECORD *(continued)*

State key No.	No. of years		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
		Max.	12.3	4.4	9.4	6.6	2.9	2.3	1.6	2.1	1.6	6.8	10.5	5.3	39.3
550	20	Med.	2.4	0.2	0.9	0.0	0.0	0.0	0.0	0.1	T	0.4	1.1	1.5	13.1
		Min.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1
		Max.	12.6	6.1	14.7	5.5	4.1	1.9	2.1	1.6	1.8	8.5	13.3	6.6	35.2
551	22	Med.	1.9	0.5	0.7	0.7	0.0	0.0	0.0	T	0.0	0.4	1.1	1.3	13.4
		Min.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1
		Max.	13.2	6.9	16.9	3.2	3.0	1.3	3.8	2.1	2.7	2.8	12.3	7.6	43.4
552	11	Med.	5.0	3.0	1.0	1.4	0.9	0.4	0.4	1.1	0.2	0.7	2.3	3.4	28.0
		Min.	1.6	0.5	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.2	0.5	1.4	11.6
		Max.	11.6	10.5	18.2	12.2	4.0	0.7	2.3	2.2	1.1	10.6	13.0	7.5	39.1
554	21	Med.	2.4	1.3	1.9	1.3	0.4	0.2	0.2	0.4	0.1	0.6	1.5	1.9	19.7
		Min.	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	T	0.1	8.1
		Max.	12.0	9.6	25.6	7.2	2.4	1.1	2.7	3.2	2.3	3.4	8.4	9.2	51.9
555	10	Med.	5.5	2.8	1.4	1.7	0.6	0.3	0.6	0.8	0.4	0.7	3.1	3.7	23.8
		Min.	0.6	0.9	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.1	1.2	7.9
		Max.	11.1	9.0	17.2	12.2	4.2	2.4	2.1	2.2	2.1	11.7	11.6	7.6	40.5
556	27	Med.	2.1	1.3	2.8	1.4	0.5	0.2	0.4	0.4	0.2	1.0	2.0	2.2	19.7
		Min.	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.7	5.5
		Max.	15.8	14.7	16.9	14.5	5.9	3.6	3.4	2.7	3.2	9.2	14.6	9.5	42.3
557	27	Med.	2.4	2.5	2.4	1.9	0.9	0.4	0.6	0.7	0.5	1.5	2.2	3.2	26.7
		Min.	0.4	0.3	0.1	0.3	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.5	13.9
		Max.	11.6	8.4	17.1	6.6	2.6	1.9	5.4	3.7	1.5	4.7	10.7	10.5	45.0
558	10	Med.	5.2	2.6	1.1	2.2	1.0	0.4	0.9	1.5	0.3	1.0	2.8	4.2	32.2
		Min.	0.6	0.5	0.1	0.3	0.3	0.0	T	0.0	0.0	0.1	0.1	1.1	9.7
		Max.	12.6	16.7	18.2	19.8	9.6	3.2	5.6	6.0	4.6	14.2	19.6	12.4	74.9
559	25	Med.	4.5	3.4	4.9	3.3	2.9	1.1	1.4	1.6	0.9	2.6	3.1	5.1	42.8
		Min.	0.5	0.5	0.0	1.2	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.4	22.5
		Max.	14.7	13.8	15.3	14.1	6.6	2.9	5.0	5.9	3.6	10.4	12.4	9.0	49.0
560	30	Med.	3.1	3.0	3.3	2.2	1.8	0.9	0.9	1.0	0.7	1.6	3.1	3.8	33.3
		Min.	0.2	0.8	0.5	0.0	0.2	0.2	0.1	0.0	0.0	0.1	0.6	0.7	15.0
		Max.	11.1	13.5	15.2	13.8	8.5	4.9	4.7	4.8	3.7	10.6	11.3	10.5	55.6
561	24	Med.	4.1	3.0	3.5	2.6	1.3	0.7	0.9	1.1	0.6	1.9	2.8	4.2	31.0
		Min.	0.3	0.6	0.6	0.1	0.2	0.1	0.0	0.1	0.0	0.2	0.5	1.0	13.3
		Max.	15.1	18.6	19.7	16.8	10.7	4.1	6.7	6.9	3.2	11.3	19.3	14.3	69.5
562	27	Med.	4.4	3.6	5.3	3.5	2.4	1.1	1.3	1.4	0.9	2.4	3.6	5.2	43.0
		Min.	0.2	0.6	1.8	0.3	0.2	0.5	0.2	0.4	0.1	0.2	1.0	0.5	24.6
		Max.	16.5	14.0	15.5	17.6	10.7	5.3	5.4	5.6	5.4	15.7	20.4	11.8	84.0
563	24	Med.	4.8	3.0	5.5	3.1	2.2	1.1	1.7	1.6	0.9	3.0	3.7	5.5	41.7
		Min.	0.4	0.4	0.9	0.5	0.6	0.4	0.6	0.4	0.1	0.3	0.6	1.4	17.5
		Max.	37.7	28.3	13.2	26.8	15.4	7.7	7.1	10.7	11.9	12.0	23.9	21.0	111.7
563.1	20	Med.	5.3	5.1	5.3	6.8	4.0	2.6	2.9	2.8	2.3	3.3	5.1	7.4	58.1
		Min.	0.5	0.1	2.7	2.2	0.3	0.3	0.5	0.8	0.8	0.7	1.2	0.3	33.6

Table 4. MONTHLY AND ANNUAL RAINFALL AT GAGES WITH RECORDS OF 15 OR MORE CONTINUOUS YEARS

STATION NO. 500 - KAMAKAIPO

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1933	--	--	--	--	--	--	--	--	--	--	--	3.40	--
1934	0.57	1.42	1.38	0.00	0.00	0.80	0.00	0.40	0.45	0.00	0.55	1.67	7.42
1935	1.87	0.00	0.80	0.00	0.00	0.00	0.00	0.00	0.40	1.26	1.60	0.40	6.33
1936	2.80	0.00	1.35	1.60	0.00	0.00	0.00	0.00	0.00	8.65	1.00	1.72	17.12
1937	3.80	14.85	2.45	0.00	0.00	0.00	1.35	0.00	0.00	0.00	0.00	2.70	25.15
1938	0.80	2.75	1.55	0.00	0.00	0.00	0.00	2.30	0.00	1.30	0.00	0.90	9.60
1939	0.00	0.00	1.25	2.40	0.00	3.50	0.00	0.00	5.00	0.50	1.10	0.90	21.65
1940	2.50	0.00	2.60	1.25	1.05	0.00	0.00	0.00	0.50	0.80	3.00	0.50	12.20
1941	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.05	0.00	0.00	2.75
1942	0.00	1.00	0.90	0.80	0.00	0.00	0.25	0.49	0.00	3.00	6.90	3.94	17.28
1943	5.20	--	--	--	--	--	--	--	--	--	--	--	--
1944	--	--	--	--	--	--	--	--	--	--	--	--	--
1945	--	--	--	--	--	--	--	--	--	--	--	--	--
1946	--	--	--	--	--	--	--	--	--	--	--	0.74	--
1947	0.00	0.00	0.26	0.00	0.00	0.00	0.67	1.07	2.14	0.00	0.96	0.96	6.06
1948	0.00	4.48	0.00	1.85	0.00	0.91	0.68	0.00	0.00	0.00	1.50	0.00	9.42
1949	6.11	2.30	0.00	0.00	0.00	0.26	0.00	0.00	0.00	0.93	0.00	1.28	10.88
1950	12.38	0.55	0.00	4.64	0.07	0.00	0.00	0.08	0.00	0.67	5.41	1.90	25.70
1951	1.09	0.00	9.20	4.05	0.00	1.00	0.00	0.00	0.00	2.15	0.00	1.60	19.09
1952	3.60	0.00	0.65	0.00	0.00	0.00	0.00	0.00	0.00	1.65	0.00	0.00	5.90
1953	1.30	1.50	2.30	0.75	0.00	0.60	0.00	0.00	0.00	0.00	0.30	1.25	8.00
1954	0.40	4.76	4.04	1.65	0.00	0.00	0.20	0.40	0.90	0.00	3.20	0.20	15.75
1955	0.00	6.25	7.80	0.00	0.70	0.00	1.10	0.00	0.00	0.00	5.60	5.25	26.70
1956	1.90	1.40	0.00	0.00	0.00	0.00	1.40	2.20	1.25	0.00	3.83	5.62	17.60
1957	5.89	1.45	0.00	1.37	0.00	0.00	0.00	0.00	0.92	0.00	5.10	0.53	15.26
1958	--	2.55	5.70	--	--	--	0.95	1.05	--	2.60	--	3.15	--
1959	6.70	--	--	--	0.35	--	--	0.67	--	--	0.95	--	--
Mean	2.62	2.16	2.01	0.97	0.10	0.35	0.31	0.39	0.58	1.22	1.95	1.68	13.83

STATION NO. 500.2 - POKOHOLA

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1933	--	--	--	--	--	--	--	--	--	--	0.05	0.09	--
1934	0.04	1.82	0.26	0.00	0.00	0.08	0.00	0.51	1.66	0.91	0.46	3.07	8.81
1935	1.81	0.00	1.31	0.00	0.00	0.12	0.00	0.00	0.00	0.36	1.19	0.00	4.79
1936	2.85	0.00	0.54	0.98	0.15	0.00	0.00	0.00	0.00	7.69	0.78	1.12	14.11
1937	0.48	0.16	1.95	0.00	1.90	0.00	0.23	0.00	0.00	0.14	0.00	1.15	6.01
1938	0.14	0.00	3.06	0.00	0.00	0.00	0.17	0.30	0.00	0.83	0.00	1.94	6.44
1939	0.60	0.00	0.20	6.25	0.00	0.00	0.00	0.00	0.00	5.46	0.46	0.13	13.10
1940	2.82	0.00	1.47	2.00	0.00	0.00	0.00	0.00	0.15	0.11	2.46	0.10	9.11
1941	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.67	0.00	0.00	3.13
1942	0.00	0.09	0.24	0.24	0.00	0.00	0.00	0.29	0.00	4.42	3.83	0.64	9.75
1943	6.90	0.00	0.16	0.00	0.76	--	--	--	--	--	--	--	--
1944	--	--	--	--	--	--	--	--	--	--	--	--	--
1945	--	--	--	--	--	--	--	--	--	--	--	--	--
1946	3.94	0.00	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.99	5.66
1947	0.00	0.00	0.18	0.00	0.00	0.00	0.32	0.39	3.43	0.00	0.30	1.03	5.65
1948	5.25	4.48	0.00	1.30	0.00	0.16	0.00	0.00	0.00	0.00	1.58	0.00	12.77
1949	5.11	3.41	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.00	0.04	1.30	10.13
1950	15.54	0.57	0.00	3.48	0.81	0.00	0.00	0.11	0.00	0.19	9.53	4.43	32.61
1951	1.19	6.69	8.51	2.20	0.00	0.15	0.00	0.50	0.00	0.21	0.19	2.44	22.08
1952	6.56	0.35	0.00	0.00	0.31	0.00	0.00	0.00	0.49	0.94	0.00	0.00	8.65
1953	1.27	0.71	2.75	0.46	0.49	0.00	0.00	0.00	0.00	0.53	0.18	1.91	8.30
1954	2.30	3.05	3.64	1.28	0.00	0.00	0.75	1.05	0.00	0.05	3.70	1.75	17.57

STATION NO. 500.2 - POKOHOLA (Continued)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1955	1.94	4.83	10.37	0.99	0.00	0.00	0.00	0.24	0.37	0.00	5.24	6.42	30.10
1956	3.85	1.30	0.00	0.00	0.00	0.00	1.52	7.20	1.69	0.67	1.70	3.02	20.95
1957	5.02	0.76	0.00	1.10	0.19	0.00	0.00	0.32	0.33	0.00	3.88	1.75	13.35
1958	0.14	2.73	6.29	0.18	--	--	0.11	0.55	--	1.36	0.22	3.38	--
1959	7.45	2.22	--	--	0.21	0.54	0.08	--	--	--	1.08	0.15	--
Mean	3.14	1.38	1.78	0.910	0.210	0.06	0.138	0.521	0.387	1.21	1.55	1.53	12.60

STATION NO. 503 - GAGE 22.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1927	2.41	2.54	2.62	4.88	2.32	0.40	0.41	0.00	1.29	0.07	2.51	12.01	31.49
1928	0.72	2.85	0.55	2.21	0.34	0.20	0.49	0.45	1.00	0.03	1.06	0.46	10.36
1929	5.17	1.81	0.23	0.55	0.45	0.61	0.60	2.08	1.21	1.17	8.48	8.48	30.84
1930	5.19	3.42	1.63	0.19	0.00	0.00	0.96	0.36	5.48	2.76	4.11	0.79	24.89
1931	0.26	0.22	1.01	1.63	1.21	0.00	1.04	0.31	0.50	1.14	0.40	2.09	9.81
1932	0.55	7.78	1.75	0.04	0.00	0.10	0.06	0.63	1.14	1.92	1.03	1.65	16.65
1933	1.98	6.21	4.25	2.49	0.70	0.00	0.03	0.12	0.00	0.00	1.82	9.97	27.51
1934	1.76	4.10	2.47	1.66	0.84	1.47	0.47	3.33	2.40	2.70	1.83	3.63	26.66
1935	5.38	1.52	3.42	0.00	0.07	0.67	0.25	0.32	2.47	3.23	2.35	2.25	22.25
1936	4.11	1.35	2.93	3.17	0.01	0.91	0.36	0.70	0.91	13.62	3.15	1.43	32.66
1937	7.89	14.49	3.94	0.56	1.38	0.00	1.91	0.84	0.79	1.06	0.51	5.58	38.95
1938	3.09	5.88	5.75	2.51	1.51	0.00	1.26	2.23	0.00	2.63	0.35	1.43	26.64
1939	0.87	0.45	2.59	8.83	0.46	1.50	0.16	0.37	0.48	6.77	1.22	4.87	28.57
1940	4.87	1.56	2.85	1.55	2.32	0.38	0.46	0.10	1.36	0.48	3.86	1.50	21.29
1941	1.22	0.39	0.50	0.08	0.17	0.00	0.38	0.21	0.00	1.84	0.15	0.28	5.22
1942	0.00	2.12	1.49	1.56	0.37	0.49	0.32	0.80	0.50	6.25	7.67	4.07	25.64
1943	13.32	1.24	0.73	0.09	2.19	0.00	0.05	0.30	0.30	0.85	0.19	0.99	20.25
1944	0.09	3.36	9.76	0.32	2.30	3.35	0.18	0.38	0.12	0.49	0.29	1.40	22.04
1945	0.05	0.34	0.16	9.84	0.11	0.43	3.40	0.03	0.51	1.19	0.46	--	--
1946	--	--	--	--	--	--	--	--	--	--	--	--	--
1947	--	--	--	--	--	--	--	--	--	--	--	--	--
1948	9.77	4.65	0.22	1.00	--	0.80	0.60	0.05	0.30	0.03	2.06	0.60	--
1949	5.68	2.65	--	0.42	--	0.24	0.30	--	--	--	0.21	1.49	--
1950	12.85	0.63	0.23	5.22	0.97	--	0.13	0.43	0.07	0.26	6.71	6.01	--
1951	2.20	5.10	13.71	2.45	1.63	0.64	0.12	0.28	0.20	0.96	0.09	3.40	30.78
1952	4.60	0.22	0.31	0.00	0.62	0.00	0.25	0.00	0.66	1.00	0.41	0.17	8.24
1953	0.86	1.27	3.57	1.43	0.65	0.39	0.10	0.01	0.09	0.87	0.14	1.42	10.80
1954	1.68	3.61	4.56	1.83	0.24	0.06	0.60	0.73	0.45	0.08	4.18	1.81	19.83
1955	1.78	5.60	7.66	0.39	0.29	0.02	1.02	0.26	1.65	0.19	4.69	4.72	28.27
1956	3.95	1.32	0.09	1.32	0.32	0.02	0.86	0.41	0.64	1.10	3.64	2.53	16.20
1957	4.17	0.46	0.12	0.71	0.81	0.04	0.52	0.41	0.13	0.01	3.19	2.16	12.73
1958	0.46	1.72	5.84	0.13	0.18	0.09	0.95	1.22	0.23	1.34	0.34	2.61	15.11
1959	5.49	2.13	0.28	0.45	0.65	0.04	0.10	0.57	0.13	0.07	1.51	0.47	11.89
Mean	3.63	2.94	2.84	1.86	0.80	0.43	0.59	0.60	0.83	1.80	2.21	3.00	20.22

Table 4. MONTHLY AND ANNUAL RAINFALL AT GAGES WITH RECORDS OF 15 OR MORE CONTINUOUS YEARS *(continued)*

STATION NO. 505 - GAGE 14

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1923	--	--	--	--	--	--	--	--	--	--	--	5.68	--
1924	0.44	1.82	1.48	5.07	1.24	0.41	2.68	0.17	0.40	1.17	1.24	5.35	21.47
1925	1.32	1.14	1.32	0.77	0.41	0.22	2.63	0.00	0.72	1.46	0.57	3.78	14.34
1926	1.64	0.51	1.69	1.00	0.25	1.86	1.00	0.74	1.36	2.60	0.45	0.78	13.88
1927	2.38	3.10	2.98	3.19	1.30	0.68	0.27	0.15	1.74	0.15	3.58	13.31	32.88
1928	0.74	1.69	1.03	2.38	0.78	0.15	0.55	0.31	0.20	0.23	1.20	0.57	9.83
1929	5.25	2.65	0.20	0.22	1.52	0.22	0.71	2.29	1.82	0.41	9.23	8.30	32.82
1930	4.82	4.08	1.79	0.19	0.00	0.04	0.10	0.41	5.17	1.91	2.95	1.12	22.43
1931	0.38	0.21	1.28	1.97	0.77	0.00	0.21	1.78	0.79	2.99	1.11	3.10	14.59
1932	1.11	9.24	2.81	0.47	0.00	0.27	0.30	2.85	2.04	1.12	0.95	2.76	23.72
1933	0.50	2.98	5.12	1.14	1.38	0.00	0.05	0.08	0.08	0.14	1.07	4.68	16.22
1934	0.78	2.45	1.94	0.84	1.09	4.30	1.12	4.32	1.38	1.26	1.47	2.11	23.06
1935	3.21	0.86	2.36	0.00	0.28	0.88	1.37	0.33	2.46	3.24	2.15	1.45	18.59
1936	3.62	0.75	2.31	2.52	0.13	1.55	0.07	0.39	1.41	8.69	2.07	1.54	25.05
1937	4.91	7.18	2.24	0.61	2.54	0.00	0.99	0.35	0.81	2.31	0.44	3.94	26.32
1938	1.96	4.11	4.12	1.50	1.95	0.65	2.52	3.95	0.00	3.37	0.54	2.38	27.05
1939	1.38	0.54	2.95	0.99	0.41	0.25	0.13	0.31	1.68	8.01	1.87	5.36	25.97
1940	5.36	1.00	2.61	2.05	2.67	0.50	0.49	0.57	0.62	1.15	3.47	2.19	22.68
1941	1.46	1.01	0.89	0.18	0.52	0.00	0.53	0.23	0.00	4.62	0.26	0.78	10.48
1942	--	3.24	2.76	1.30	0.35	0.29	2.67	1.27	0.98	8.49	7.01	4.45	--
1943	12.77	0.72	1.32	0.28	1.97	0.00	0.28	0.69	0.73	1.41	0.29	1.45	21.91
1944	1.40	3.74	10.33	1.03	0.42	2.28	0.08	0.28	0.51	1.03	0.40	1.68	23.18
1945	0.05	0.28	0.27	10.44	0.17	0.12	5.04	0.07	1.23	1.24	0.58	4.12	23.61
1946	6.92	1.90	0.53	0.23	0.60	0.27	0.24	0.56	0.06	2.30	0.75	5.08	19.44
1947	1.55	0.57	3.15	0.32	2.35	0.00	0.27	0.00	4.12	0.24	1.65	2.12	16.34
1948	12.33	5.27	0.36	1.00	0.02	3.61	0.54	0.52	0.49	0.29	3.03	1.51	28.97
1949	7.45	4.05	0.00	0.72	0.00	0.38	0.42	0.00	0.00	0.00	1.21	1.83	16.06
1950	15.33	1.32	0.68	4.92	1.21	0.00	0.23	2.80	0.30	0.61	8.70	8.07	44.17
1951	1.58	5.73	14.18	1.08	1.61	0.54	0.50	0.47	0.28	1.59	0.75	3.87	32.18
1952	5.43	0.27	1.07	0.08	1.06	0.00	0.37	0.00	0.25	1.62	0.69	0.64	11.48
1953	1.28	1.12	4.51	0.87	1.17	0.20	0.22	0.05	0.38	1.67	0.35	1.98	13.80
1954	1.38	2.71	5.69	1.97	0.72	0.27	1.08	0.72	0.23	0.28	4.66	4.04	23.75
1955	2.02	6.40	7.97	0.28	1.29	0.10	0.47	0.69	3.18	0.14	4.46	5.94	32.94
1956	4.27	1.76	0.66	1.84	0.89	0.14	2.57	2.30	1.74	2.70	5.15	3.65	27.67
1957	5.25	0.86	0.62	1.17	1.98	0.07	1.08	1.28	0.12	0.03	4.28	3.04	19.78
1958	0.72	3.03	6.89	0.40	0.48	0.59	1.37	2.25	0.32	2.04	0.70	3.92	22.71
1959	7.44	2.52	0.55	0.22	1.33	0.21	0.53	1.12	0.28	0.14	3.27	0.29	17.90
Mean	3.67	2.52	2.80	1.48	0.97	0.58	0.94	0.95	1.05	1.96	2.29	3.43	22.50

STATION NO. 511 - MAUNALOA

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1923	--	--	--	--	--	--	--	--	--	2.04	0.48	7.88	--
1924	0.16	2.70	1.27	5.68	4.34	1.00	2.98	0.43	0.48	1.82	1.45	6.30	28.70
1925	0.88	2.30	1.17	1.51	0.56	0.30	2.99	0.27	0.89	1.46	1.15	3.74	17.22
1926	2.28	0.63	1.66	0.73	0.06	1.52	1.68	1.67	3.62	1.36	0.37	0.73	16.31
1927	3.87	4.21	4.60	6.22	3.03	0.68	0.78	0.45	1.40	0.28	4.25	14.19	43.96
1928	0.98	2.17	1.84	2.11	0.97	0.37	0.27	0.57	0.47	0.87	1.50	0.86	12.98
1929	6.44	2.52	0.68	0.30	2.87	0.22	0.89	2.51	2.36	0.08	10.50	9.61	38.98
1930	6.70	5.51	2.35	0.49	0.00	0.35	0.20	1.23	3.96	4.23	3.85	1.64	30.51
1931	0.71	0.35	2.33	5.25	1.10	0.23	0.70	1.26	1.39	3.25	0.49	2.50	19.56
1932	1.18	9.04	3.72	0.32	0.74	0.73	0.71	1.03	1.97	1.15	1.59	2.34	24.52
1933	1.46	3.85	4.02	2.06	1.20	0.13	0.29	0.18	0.03	0.23	2.15	7.06	22.66
1934	1.69	3.28	2.27	1.81	2.26	4.14	1.34	3.16	1.93	3.13	2.01	2.61	29.36

Table 4. MONTHLY AND ANNUAL RAINFALL AT GAGES WITH RECORDS OF 15 OR MORE CONTINUOUS YEARS *(continued)*

STATION NO. 511 - MAUNALOA (Continued)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1935	4.97	1.38	3.41	0.00	0.77	0.93	3.89	0.31	3.01	2.91	2.32	1.68	25.58
1936	3.43	1.24	3.33	3.50	0.68	1.68	0.49	0.57	1.57	11.21	3.06	1.48	32.24
1937	7.02	10.37	4.01	1.02	2.54	0.00	2.53	1.41	0.14	2.86	1.10	4.40	37.40
1938	2.38	5.62	5.08	2.12	2.60	0.48	2.33	5.65	0.14	1.43	0.74	2.23	30.80
1939	1.80	0.68	3.23	11.33	0.66	0.99	0.33	0.44	1.72	8.06	2.43	6.45	32.83
1940	6.45	1.17	4.03	1.56	4.86	0.27	0.62	1.15	1.06	0.53	3.49	3.22	28.41
1941	1.38	1.73	1.65	0.26	0.51	0.33	0.58	0.48	0.11	4.85	0.80	1.00	13.48
1942	0.36	3.75	2.95	2.07	0.97	0.48	1.96	0.74	1.89	10.77	9.56	5.57	41.07
1943	15.02	1.37	1.70	0.52	3.58	0.01	0.61	1.65	0.76	1.07	0.38	0.84	27.51
1944	0.82	3.97	12.84	1.40	0.87	2.89	0.23	0.63	0.16	1.73	0.35	1.99	27.88
1945	0.14	0.46	0.72	12.48	0.86	0.35	5.17	0.28	0.72	0.33	0.92	5.20	27.63
1946	9.68	1.44	0.71	1.61	0.67	0.50	0.79	0.93	0.33	1.44	1.78	8.81	28.69
1947	1.37	1.15	2.85	1.16	2.82	0.13	1.03	1.07	2.35	1.16	1.74	2.26	19.09
1948	11.82	5.66	0.55	2.77	0.46	1.94	1.21	1.67	1.39	0.35	3.78	1.28	32.88
1949	8.55	4.49	0.32	1.08	0.06	0.42	0.47	0.23	0.14	0.21	1.25	2.29	19.51
1950	14.41	1.41	1.28	5.25	1.06	0.07	0.35	2.57	0.82	1.01	11.73	9.86	49.82
1951	3.40	8.33	19.35	1.55	2.75	0.94	0.56	0.81	0.76	1.91	0.76	4.35	45.47
1952	6.20	0.75	1.44	0.61	1.54	0.04	0.74	0.08	0.73	2.30	1.57[e]	1.09[e]	17.09[e]
1953	1.90	0.82	4.43	1.24	1.52	0.37	0.29	0.11	0.35	0.76	0.80	2.78	15.37
1954	1.12	3.10	4.28	2.39	0.64	0.16	1.53	0.60	0.30	0.73	3.99	4.68	23.52
1955	1.90	6.44	6.94	0.44	1.09	0.10	0.66	0.85	2.64	0.50	6.63	8.09	36.28
1956	5.77	3.49	0.84	2.21	0.69	0.44	1.63	0.92	3.78	2.77	5.38	3.92	31.84
1957	5.56	1.47	0.85	1.57	3.33	0.30	1.43	2.23	0.44	0.17	5.59	3.58	26.52
1958	0.85	1.75	9.66	0.48	0.65	0.96	2.31	3.43	0.69	3.00	1.04	4.57	29.39
1959	6.00	3.22	0.81	0.57	0.65	0.22	0.92	1.65	0.52	0.50	1.99	1.19	18.24
Mean	4.13	3.11	3.42	2.38	1.50	0.69	1.26	1.20	1.25	2.23	2.78	4.12	25.37

STATION NO. 511.2 - GAGE 1

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1923	--	--	5.67	1.70	0.00	0.00	0.23	2.40	1.79	0.58	0.55	7.20	--
1924	0.14	2.78	1.56	5.25	3.25	0.77	3.13	0.34	0.39	1.06	1.03	6.29	25.98
1925	1.01	2.14	0.79	1.31	0.28	0.04	2.42	0.07	0.54	1.01	1.11	3.63	15.14
1926	2.39	0.54	1.40	0.69	0.05	1.11	1.32	1.32	3.78	0.97	0.61	0.52	14.70
1927	2.27	4.30	3.89	5.51	2.56	0.77	0.43	0.19	1.47	0.30	3.79	17.51	42.99
1928	0.95	2.62	1.54	2.19	0.87	0.36	0.89	0.00	0.00	0.40	1.96	0.58	12.38
1929	5.63	2.68	0.12	0.52	3.50	0.08	0.63	1.56	2.78	0.42	9.25	7.92	35.07
1930	5.97	6.26	2.13	0.34	0.00	0.12	0.16	1.02	5.87	2.92	3.38	1.03	29.86
1931	0.92	0.36	1.86	4.61	1.12	0.28	1.74	0.94	1.64	2.14	2.90	3.36	21.87
1932	0.93	8.24	3.22	0.36	0.00	0.78	0.20	0.50	1.40	1.36	1.01	3.04	21.04
1933	2.79	4.47	2.69	2.13	0.90	0.00	0.11	0.02	0.18	0.00	1.92	9.49	24.70
1934	2.37	3.52	2.53	1.65	1.97	3.11	0.38	2.48	2.29	2.98	2.04	2.44	27.76
1935	5.49	1.38	3.97	0.00	0.18	0.02	2.12	0.25	1.85	2.68	2.39	1.62	21.95
1936	1.74	1.13	3.42	3.05	0.57	1.30	0.81	0.67	0.87	9.59	2.09	1.54	26.78
1937	5.75	9.52	2.97	0.74	2.60	0.00	1.52	0.37	0.86	1.69	0.67	3.07	29.76
1938	1.87	4.33	4.04	1.96	2.55	0.38	1.91	3.77	0.00	1.06	0.38	1.48	23.73
1939	1.32	0.50	2.48	10.29	0.47	1.30	0.10	0.21	1.10	7.84	1.48	5.35	32.44
1940	5.35	2.33	3.09	0.97	4.24	0.11	0.57	0.33	0.38		(Discontinued)		
Mean	2.76	3.36	2.63	2.40	1.39	0.59	1.04	0.91	1.51	2.22	2.15	4.45	25.07

Table 4. MONTHLY AND ANNUAL RAINFALL AT GAGES WITH RECORDS OF 15 OR MORE CONTINUOUS YEARS *(continued)*

STATION NO. 513 - GAGE 5

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1923	--	--	--	--	--	--	--	--	--	0.79	0.47	5.86	--
1924	0.06	2.00	1.01	3.00	1.17	0.31	2.91	0.13	0.31	1.79	1.42	5.35	19.46
1925	1.35	2.12	1.36	2.39	0.50	0.07	1.76	0.11	0.38	1.91	0.71	3.70	16.36
1926	1.83	0.36	1.35	0.52	0.30	1.63	1.19	1.06	0.21	3.29	0.40	1.46	13.60
1927	2.29	2.13	3.41	3.40	0.72	0.54	0.27	0.06	1.56	0.12	8.39	12.50	36.39
1928	0.81	2.05	1.56	1.80	0.32	0.00	0.38	0.00	0.00	1.05	1.62	0.45	10.04
1929	5.06	2.52	0.28	0.99	1.10	0.06	0.52	0.82	0.86	0.00	10.87	7.81	30.89
1930	6.24	2.59	1.36	0.24	0.04	0.04	0.00	1.96	3.53	1.54	3.76	0.51	21.81
1931	0.45	0.15	2.01	3.31	0.86	0.16	0.19	2.16	0.54	2.29	0.56	2.10	14.78
1932	0.69	6.81	1.17	0.28	1.10	0.00	1.33	2.20	0.85	0.00	0.44	2.91	17.78
1933	0.58	5.96	4.61	1.37	0.93	0.00	0.34	0.03	0.23	0.00	0.68	4.80	19.53
1934	1.60	3.15	1.30	0.96	0.93	0.71	0.00	2.37	0.90	1.27	2.09	1.27	16.55
1935	3.02	0.97	2.91	0.00	0.08	1.53	0.56	0.68	0.32	1.70	2.10	1.21	15.08
1936	2.92	0.67	2.34	3.44	0.14	0.74	0.00	0.16	0.77	7.33	2.59	1.58	22.72
1937	6.74	10.78	3.25	1.51	2.42	0.00	2.16	0.70	0.34	1.03	0.83	4.28	34.04
1938	2.20	5.03	3.55	1.89	1.54	0.00	1.49	4.05	0.00	3.66	0.51	3.39	27.31
1939	2.13	1.00	2.62	9.54	0.89	0.28	0.07	0.29	2.36	8.67	2.52	4.95	35.32
1940	4.95	0.61	2.77	2.40	4.11	0.77	0.45	1.04	0.86		(Discontinued)		
1941	--	--	--	--	--	--	--	--	--	--	--	--	--
1942	--	--	--	--	--	--	--	--	--	--	--	--	--
1943	--	--	--	--	--	--	--	--	--	--	--	--	--
1944	--	--	--	--	--	--	--	--	--	--	--	--	--
1945	--	--	--	--	--	--	--	--	--	--	--	--	--
1946	--	--	--	--	--	--	--	--	--	--	--	--	--
1947	--	--	--	--	--	--	--	--	--	0.34	2.01	1.67	--
1948	8.27	7.73	0.94	1.09	0.26	2.93	0.70	0.32	0.45	0.40	2.56	2.01	27.66
1949	8.08	4.48	0.43	1.13	0.00	1.80	0.26	0.00	0.00	0.37	0.99	1.59	19.13
1950	14.19	1.26	1.18	4.18	1.26	0.00	0.83	1.96	0.26	0.37	11.54	8.16	45.19
1951	1.60	6.17	15.51	0.59	0.83	0.05	0.36	0.90	0.35	1.98	0.52	3.95	32.81
1952	5.85	0.38	1.10	0.68	1.03	0.06	0.71	0.00	0.12	2.17	1.28	1.28	14.66
1953	1.78	0.94	3.31	1.33	1.21	0.32	0.18	0.02	0.56	0.57	0.51	2.09	12.92
1954	1.22	3.58	5.46	2.07	0.89	0.37	3.22	0.49	0.08	0.72	5.42	5.35	28.87
1955	2.03	6.72	7.87	0.31	0.54	0.23	1.06	1.20	1.26	0.26	5.37	6.65	33.50
1956	5.13	4.01	0.34	2.40	1.10	0.28	0.92	1.25	2.56	0.92	4.68	3.76	27.27
1957	4.95	1.62	0.87	1.30	1.32	0.18	1.08	1.91	0.11	0.26	4.80	3.18	21.58
1958	0.85	3.04	7.37	0.66	0.33	0.49	1.83	2.72	0.48	2.48	1.09	4.41	25.75
1959	7.99	2.66	0.64	0.25	0.81	0.12	0.35	1.19	0.18	0.09	2.00	0.28	16.56
Mean	3.62	3.15	2.82	1.83	0.92	0.47	0.87	1.03	0.70	1.58	2.76	3.62	23.48

STATION NO. 520 - MAHANA

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1933	--	5.30	3.36	1.61	0.00	0.00	0.00	0.00	0.00	0.00	1.65	7.68	--
1934	1.28	3.44	2.21	0.62	1.07	0.00	0.57	1.35	0.88	1.54	1.75	0.95	15.66
1935	4.57	1.02	8.24	0.00	0.00	1.69	0.68	0.00	1.04	3.09	2.26	1.14	23.73
1936	3.58	1.29	3.65	4.15	0.00	1.30	0.00	0.30	0.43	11.69	3.95	1.06	31.40
1937	5.68	9.88	3.68	0.65	1.57	0.00	1.72	1.75	0.57	0.47	0.82	4.07	30.86
1938	1.85	4.94	2.99	2.17	1.46	0.43	1.19	2.69	0.00	0.72	0.00	2.35	20.79
1939	1.64	0.53	2.84	3.04	0.00	0.00	0.00	0.71	1.52	8.52	0.82	0.90	20.52
1940	5.25	0.63	4.04	1.54	0.29	0.00	0.50	0.85	1.11	0.50	3.30	2.75	20.76
1941	1.77	0.84	0.96	0.00	0.21	0.00	0.00	0.00	0.00	5.36	0.34	1.09	10.57
1942	0.32	3.69	2.32	1.49	0.15	0.12	0.35	0.55	0.22	10.33	3.96	2.57	26.07
1943	--	--	--	--	--	--	--	--	--	--	--	--	--
1944	0.53	3.56	9.52	1.46	0.00	1.91	0.00	0.00	0.00	1.17	0.35	1.10	19.60

Table 4. MONTHLY AND ANNUAL RAINFALL AT GAGES WITH RECORDS OF 15 OR MORE CONTINUOUS YEARS *(continued)*

STATION NO. 520 - MAHANA (Continued)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1945	0.32	0.38	0.56	13.35	0.47	0.03	2.12	0.27	0.00	1.52	0.48	3.15	22.65
1946	1.69	--	--	--	--	--	--	--	--	--	--	--	--
1947	--	--	--	--	--	--	--	--	--	--	2.85	1.85	--
1948	8.50	6.94	0.30	1.81	0.00	0.32	0.15	1.20	0.50	--	--	--	--
1949	--	--	--	--	--	--	--	--	--	--	--	--	--
1950	8.87	0.00	0.00	5.96	0.00	0.00	0.00	2.34	0.00	0.00	10.99	3.00	31.16
1951	5.35	15.92	--	--	--	--	--	--	--	--	--	--	--
1952	6.16	1.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	2.00	0.00	9.38
1953	0.81	0.55	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.53	3.41
1954	0.09	1.00	2.96	0.00	0.00	0.00	1.04	--	--	--	--	--	--
1955	1.40	6.21	6.21	0.00	0.00	0.00	0.00	0.00	0.64	0.00	5.41	6.20	26.07
1956	3.52	1.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.99	14.16
1957	2.76	1.22	0.00	1.87	0.53	0.00	0.00	1.25	0.00	0.00	3.04	2.01	12.68
1958	--	2.29	--	--	--	--	--	--	--	0.80	--	3.50	--
1959	7.73	--	--	--	--	--	--	--	--	--	--	0.27	--
Mean	3.35	3.29	2.72	1.99	0.29	0.29	0.42	0.70	0.36	2.41	2.31	2.67	19.97

STATION NO. 526 - FIELD 315

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1934	0.85	3.92	1.66	0.75	0.17	0.20	0.03	0.31	0.46	0.72	1.31	1.71	11.55
1935	3.54	0.35	5.53	0.00	0.39	0.45	0.00	0.07	0.16	2.55	0.31	1.57	14.92
1936	2.26	0.91	1.96	1.58	0.06	0.03	0.00	0.23	1.50	3.30	2.02	0.97	14.82
1937	3.85	11.28	4.20	0.36	0.78	0.05	0.52	0.63	0.00	0.71	1.01	2.30	25.69
1938	1.68	2.77	1.85	2.48	1.73	0.00	0.68	1.54	0.00	0.31	0.00	1.41	14.54
1939	0.92	0.42	3.92	9.15	0.58	0.00	0.00	0.00	1.13	6.49	0.41	1.50	24.52
1940	5.47	0.33	4.37	0.56	3.21	0.13	0.22	0.20	0.96	0.37	4.28	1.84	21.94
1941	0.63	0.24	0.40	0.00	0.06	0.00	0.00	0.00	0.00	1.94	0.22	0.29	3.78
1942	0.11	3.04	2.28	1.30	0.00	0.00	0.00	0.04	0.02	3.71	3.62	3.98	18.10
1943	10.32	1.18	1.68	0.26	2.52	0.00	0.02	0.33	0.02	0.19	0.00	0.69	17.21
1944	0.05	1.25	9.93	0.09	0.00	1.40	0.00	0.04	0.00	0.59	0.27	1.36	14.98
1945	0.00	0.16	0.04	7.88	0.50	0.02	0.09	0.00	0.43	0.00	0.67	0.97	10.76
1946	7.30	0.44	0.00	0.00	0.43	0.00	0.07	0.00	0.00	4.03	0.70	2.36	15.33
1947	0.30	0.11	0.40	0.11	0.96	0.00	0.00	0.00	0.10	0.28	0.81	0.70	3.77
1948	5.85	4.58	0.00	1.00	0.06	0.08	0.00	0.00	0.36	0.00	0.82	0.20	12.95
1949	5.99	3.30	0.00	0.28	0.00	0.13	0.12	0.00	0.00	0.00	0.86	1.47	12.15
1950	7.17	0.76	0.16	3.98	0.00	0.00	0.00	1.30	0.00	0.05	10.34	4.15	27.91
1951	0.80	5.12	14.94	0.31	0.35	0.00	0.00	0.33	0.00	1.72	0.03	2.33	25.93
1952	5.00	0.16	0.17	0.09	0.24	0.00	0.21	0.00	0.00	2.36	0.20	0.00	8.43
1953	0.76	2.22	0.68	0.22	0.06	0.00	0.00	0.00	0.00	0.00	0.32	1.86	6.12
1954	1.24	1.39	5.29	2.03	0.19	0.00	0.26	0.00	0.05	0.34	2.18	3.77	16.74
1955	2.32	5.04	3.66	0.08	0.16	0.00	0.00	0.22	0.19	0.05	6.25	8.65	26.62
1956	5.33	0.74	0.45	0.74	0.05	0.00	0.80	0.18	0.80	1.79	6.70	1.12	18.70
1957	3.57	0.77	1.00	0.89	0.25	0.00	0.00	0.40	0.00	0.10	3.57	2.82	13.37
1958	0.11	3.53	8.39	0.27	0.20	0.20	0.29	1.07	0.35	1.90	0.69	4.20	21.20
1959	7.96	2.75	0.11	0.17	0.34	0.00	0.02	0.42	0.09	0.10	1.93	0.53	14.42
Mean	3.21	2.14	2.81	1.33	0.51	0.10	0.13	0.28	0.18	1.29	1.90	2.03	16.02

Table 4. MONTHLY AND ANNUAL RAINFALL AT GAGES WITH RECORDS OF 15 OR MORE CONTINUOUS YEARS *(continued)*

STATION NO. 527.1 - HOOLEHUA

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1926	--	--	--	--	--	--	1.25	1.00	0.97	4.98	0.94	0.75	--
1927	6.42	4.14	4.42	15.08	2.48	0.84	0.98	0.77	--	0.41	9.49	13.02	--
1928	2.77	3.97	1.96	--	--	0.80	2.85	0.45	0.21	0.00	3.17	1.19	--
1929	10.84	3.42	0.72	2.20	1.31	0.54	1.18	1.58	0.39	1.24	13.53	10.12	47.07
1930	6.05	8.13	3.57	1.42	0.70	1.38	--	--	--	--	13.26	1.41	--
1931	0.48	1.09	6.08	3.42	2.92	1.97	1.66	2.32	3.96	4.05	2.34	4.18	34.47
1932	1.26	10.20	3.86	3.17	1.67	1.43	1.35	1.01	1.59	0.61	1.15	3.88	31.18
1933	1.31	3.61	7.13	2.18	0.61	0.47	0.79	0.94	0.54	0.33	--	6.46	--
1934	1.92	4.26	2.50	4.81	3.46	1.89	0.35	1.33	2.23	3.06	6.13	2.00	33.94
1935	4.09	3.83	5.18	--	1.39	4.74	0.95	0.70	0.36	2.36	2.46	2.45	--
1936	3.79	1.57	4.38	9.78	3.91	3.34	1.60	1.05	2.63	6.35	5.84	4.51	48.75
1937	4.10	11.79	5.74	3.75	4.55	1.82	2.50	2.12	1.20	2.15	0.58	6.83	47.13
1938	4.15	7.63	3.15	10.45	7.10	2.00	5.46	1.40	--	--	--	3.20	--
1939	3.80	2.27	1.14	11.44	3.64	2.33	0.40	0.53	1.59	9.60	6.61	3.23	46.58
1940	5.42	1.66	5.60	2.35	6.74	0.60	1.18	2.55	1.60	1.22	6.10	5.49	40.51
1941	1.38	1.05	3.76	0.00	3.63	1.78	1.13	1.16	1.40	9.61	0.77	1.20	26.87
1942	0.00	4.41	13.55	4.15	1.15	1.09	1.50	0.71	0.00	15.96	3.23	8.30	54.05
1943	10.24	2.38	4.55	2.35	3.95	0.42	0.92	1.73	0.22	0.35	0.00	3.07	30.18
1944	1.47	4.68	12.42	3.24	0.25	1.64	0.94	0.62	0.13	3.62	1.68	3.77	34.46
1945	0.66	1.10	1.44	9.24	0.10	0.54	2.77	1.29	0.00	1.39	0.45	1.30	20.28
1946	8.59	0.65	2.70	1.00	1.28	2.24	2.41	1.17	0.00	2.30	2.09	10.09	34.52
1947	2.50	2.33	4.52	1.39	6.30	0.18	1.38	1.13	1.84	1.91	3.02	2.99	29.49
1948	11.03	6.45	1.84	2.70	2.51	1.97	1.54	1.54	1.63	1.83	3.94	3.76	40.74
1949	9.57	4.30	0.94	1.71	2.10	1.55	2.17	0.48	0.20	0.31	2.22	1.31	26.86
1950	10.61	--	--	--	--	--	--	--	--	1.12	11.43	12.11	--
1951	2.02	2.73	17.92	0.75	0.82	0.34	0.53	1.61	1.11	2.89	1.10	5.09	36.91
1952	5.11	1.98	1.14	0.73	1.44	0.87	2.34	0.47	0.11	5.93	1.39	2.45	23.96
1953	0.66	0.91	1.28	1.54	2.08	0.27	0.78	0.69	0.35	1.03	2.69	4.19	16.47
1954	1.16	2.43	5.54	1.14	3.92	1.39	5.45	2.11	1.20	1.88	3.73	11.63	41.58
1955	3.64	10.74	4.56	0.40	1.89	1.13	1.32	2.77	--	--	--	--	--
Mean	4.31	4.06	4.34	3.86	2.66	1.41	1.70	1.26	1.02	3.20	4.05	4.83	35.52

STATION NO. 528 - FIELD 322

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1928	0.65	1.05	1.21	1.47	1.62	0.25	1.07	0.00	0.00	0.36	0.73	0.28	8.69
1929	8.60	1.67	0.00	0.41	0.86	0.02	0.17	0.67	0.80	0.28	8.14	7.71	29.33
1930	5.02	4.44	3.18	0.00	0.00	0.10	0.00	0.05	2.40	0.23	4.94	0.00	20.96
1931	0.23	0.03	1.84	1.32	0.81	0.08	0.14	0.99	0.52	3.36	0.33	1.67	11.32
1932	0.05	7.74	1.62	0.20	0.56	0.58	0.06	0.07	0.81	0.00	0.86	2.51	15.06
1933	0.03	2.46	3.20	1.06	0.84	0.02	0.05	0.00	0.00	0.00	1.88	6.74	16.28
1934	1.07	3.79	1.81	1.08	0.54	0.28	0.11	0.20	0.23	1.07	1.35	1.37	12.90
1935	3.11	0.22	5.40	0.00	0.36	0.54	0.05	0.07	0.19	1.82	0.44	1.74	13.94
1936	2.43	0.95	1.93	2.04	0.08	0.24	0.00	0.34	0.76	3.78	2.43	1.05	16.03
1937	4.16	11.56	3.90	0.72	1.00	0.23	0.33	0.90	0.00	0.34	1.11	2.60	26.85
1938	1.74	2.82	3.11	3.18	1.82	0.00	1.82	1.52	0.00	0.87	0.20	1.75	18.83
1939	1.58	0.64	1.37	8.99	0.93	0.08	0.00	0.00	1.17	6.63	1.63	1.19	24.21
1940	5.61	0.31	4.73	0.63	4.11	0.15	0.21	0.49	1.31	0.93	4.44	2.27	25.19
1941	0.73	0.45	0.83	0.00	0.17	0.00	0.00	0.01	0.32	2.61	0.35	0.94	6.41
1942	0.13	3.36	2.81	1.54	0.00	0.18	0.05	0.24	0.16	5.30	3.52	5.16	22.45
1943	8.81	1.79	2.49	0.48	2.50	0.00	0.26	0.81	0.08	0.16	0.11	1.55	19.04
1944	0.54	1.56	10.07	0.44	0.31	1.38	0.06	0.06	0.03	1.10	0.27	1.95	17.77

STATION NO. 528 - FIELD 322 (Continued)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1945	0.23	0.32	0.57	8.38	0.70	0.02	0.26	0.46	0.82	0.10	0.95	1.16	13.97
1946	7.45	0.12	0.39	0.18	0.57	0.00	0.24	0.21	0.00	2.59	1.14	3.61	16.50
1947	0.89	0.89	1.18	0.49	2.48	0.00	0.08	0.09	0.53	0.51	0.63	1.51	9.28
1948	7.52	4.54	1.33	1.60	0.10	0.85	0.20	0.28	0.47	0.09	2.12	0.83	19.93
1949	6.05	3.07	0.20	0.46	0.00	0.20	0.16	0.02	0.00	0.00	0.85	1.32	12.33
1950	7.51	1.38	0.15	3.66	0.00	0.00	0.10	1.15	0.00	0.20	12.18	5.54	31.87
1951	0.88	4.02	16.75	0.27	0.70	0.00	0.00	0.54	0.10	1.85	0.00	3.07	28.18
1952	4.95	0.26	0.25	0.17	0.35	0.00	0.38	0.00	0.00	2.51	0.58	0.26	9.71
1953	0.63	0.66	0.88	0.32	0.26	0.05	0.09	0.03	0.01	0.26	0.71	1.91	5.81
1954	1.02	1.37	5.18	2.15	0.33	0.22	0.68	0.29	0.13	0.40	2.29	4.34	18.40
1955	2.45	6.54	3.50	0.14	0.17	0.03	0.13	0.57	1.07	0.09	5.75	8.16	28.60
1956	5.26	1.01	0.33	1.43	0.08	0.02	0.61	0.41	0.98	2.68	5.92	1.17	19.90
1957	3.39	1.04	1.45	1.28	0.03	0.06	0.12	1.15	0.00	0.10	3.52	3.69	15.83
1958	0.55	3.34	8.83	0.56	0.40	0.09	0.90	1.82	0.41	1.82	0.50	4.67	23.89
1959	7.52	2.97	0.24	0.58	0.46	0.01	0.15	0.81	0.16	0.32	2.19	1.01	16.42
Mean	3.15	2.39	2.84	1.41	0.72	0.18	0.26	0.44	0.42	1.32	2.25	2.58	18.00

STATION NO. 529 - FIELD 325

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1929	--	--	--	--	--	--	--	--	0.50	0.00	8.66	7.18	--
1930	4.49	5.57	4.10	0.00	0.00	0.03	0.00	0.19	2.52	1.02	5.69	0.21	23.85
1931	0.28	0.00	1.85	1.83	0.46	0.00	0.13	0.40	1.37	3.76	0.31	3.04	13.43
1932	0.04	7.34	1.44	0.11	0.09	0.50	0.09	0.00	0.73	0.00	0.31	1.85	12.50
1933	0.00	2.60	3.45	1.14	1.15	0.03	0.08	0.00	0.00	0.00	1.58	7.74	17.77
1934	1.03	3.65	2.06	0.82	0.18	0.26	0.02	0.87	0.28	1.30	0.90	0.41	11.78
1935	3.87	0.25	5.39	0.00	0.00	0.00	0.00	0.02	0.00	2.98	0.22	1.52	14.25
1936	2.16	1.21	1.48	1.05	0.00	0.00	0.00	0.00	0.00	3.33	1.89	0.66	11.78
1937	4.36	10.74	3.85	0.21	1.97	0.00	0.41	0.49	0.00	0.64	0.62	1.83	25.12
1938	1.46	2.66	1.01	2.76	1.87	0.00	0.19	1.47	0.00	0.33	0.15	1.55	13.45
1939	0.94	0.38	5.22	9.02	0.45	0.00	0.00	0.00	1.03	7.43	1.10	1.03	26.60
1940	5.61	0.23	4.58	0.00	3.06	0.05	0.15	0.24	1.59	0.76	4.33	1.60	22.20
1941	0.78	0.35	0.34	0.00	0.00	0.00	0.00	0.00	0.00	1.36	0.22	0.00	3.05
1942	0.00	2.87	1.75	0.00	0.00	0.00	0.04	0.00	0.01	2.46	2.84	4.08	14.05
1943	9.00	1.15	1.59	0.16	2.66	0.00	0.02	0.25	0.05	0.00	0.00	1.18	16.06
1944	0.11	1.28	8.54	0.14	0.07	1.42	0.00	0.06	0.00	0.53	0.16	1.39	13.70
1945	0.16	0.26	0.04	8.67	0.80	0.00	0.30	0.03	0.70	0.00	0.41	0.87	12.24
1946	7.02	0.17	0.13	0.00	0.42	0.00	0.16	0.10	0.00	4.82	0.50	3.19	16.51
1947	0.64	0.25	0.49	0.26	0.70	0.00	0.00	0.01	0.68	0.22	0.70	1.30	5.25
1948	7.68	4.70	0.35	1.30	0.05	0.00	0.22	0.00	1.13	0.00	1.40	0.32	17.15
1949	6.36	3.25	0.00	0.39	0.00	0.13	0.04	0.00	0.00	0.00	0.66	1.23	12.06
1950	7.01	0.56	0.10	5.12	0.00	0.00	0.00	1.60	0.00	0.00	11.89	4.65	30.93
1951	0.90	3.50	17.53	0.21	0.41	0.00	0.00	0.00	0.00	1.78	0.00	3.09	27.42
1952	4.85	0.15	0.18	0.04	0.17	0.00	0.09	0.00	0.00	1.85	0.07	0.00	7.40
1953	0.61	1.30	1.19	1.13	0.02	0.00	0.00	0.00	0.00	0.00	0.15	1.66	5.06
1954	0.97	2.06	4.83	1.98	0.18	0.06	0.32	0.00	0.04	0.21	2.10	3.61	16.36
1955	2.39	6.08	2.96	0.00	0.32	0.00	0.04	0.16	0.33	0.05	6.61	7.83	26.77
1956	4.88	0.96	0.33	0.53	0.21	0.00	0.76	0.15	1.63	1.30	7.68	1.81	20.24
1957	3.22	1.18	0.82	1.11	0.35	0.00	0.23	1.14	0.00	0.00	3.91	4.29	16.25
1958	0.23	3.84	12.06	0.47	0.21	0.24	0.33	1.53	0.31	1.64	0.42	5.45	26.73
1959	9.95	3.58	0.02	0.11	0.09	0.00	0.00	0.44	0.07	0.15	2.46	0.45	17.32
Mean	3.03	2.40	2.92	1.25	0.53	0.09	0.12	0.30	0.42	1.22	2.03	2.42	16.58

Table 4. MONTHLY AND ANNUAL RAINFALL AT GAGES WITH RECORDS OF 15 OR MORE CONTINUOUS YEARS *(continued)*

STATION NO. 533 - FIELD 309

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1928	0.71	0.99	1.27	0.69	1.21	0.07	0.71	0.05	0.00	0.01	0.60	0.30	6.61
1929	7.82	1.64	0.00	0.15	1.17	0.08	0.00	0.10	0.88	0.10	7.93	6.59	26.46
1930	4.19	5.12	3.70	0.00	0.00	0.11	0.00	0.09	2.36	1.38	5.30	0.19	22.44
1931	0.15	0.10	2.08	1.53	0.73	0.00	0.16	0.35	1.80	4.29	0.15	0.78	12.12
1932	0.02	7.30	1.83	0.30	0.20	0.33	0.03	0.29	0.68	0.00	0.46	2.08	13.52
1933	0.06	2.58	3.40	1.75	0.75	0.06	0.15	0.05	0.00	0.00	3.95	7.79	20.54
1934	1.91	3.58	2.20	1.84	0.50	0.68	0.06	0.38	0.57	1.32	1.35	1.87	16.26
1935	4.43	1.02	5.54	0.00	0.42	0.53	0.05	0.02	0.04	1.92	0.51	1.70	16.18
1936	2.24	1.40	1.76	1.53	0.31	0.05	0.00	0.26	0.22	4.54	3.06	1.22	16.59
1937	4.65	12.34	3.88	0.46	1.25	0.00	0.56	0.62	0.00	0.69	0.55	2.95	27.95
1938	2.27	3.05	2.14	1.20	1.23	0.00	0.48	2.27	0.00	0.57	0.22	1.36	14.79
1939	2.18	1.00	3.86	9.89	1.12	0.13	0.00	0.05	0.74	7.35	1.43	1.45	29.20
1940	6.55	0.50	5.24	0.55	4.01	0.63	0.24	0.57	2.49	1.19	4.75	3.97	30.69
1941	1.23	0.96	0.46	0.00	0.23	0.00	0.00	0.02	0.10	3.00	0.50	1.17	7.67
1942	0.25	3.59	7.77	1.34	0.00	0.00	0.00	0.02	0.01	3.34	2.95	4.69	23.96
1943	10.21	1.72	1.54	0.40	3.73	0.00	0.14	0.46	0.10	0.00	0.05	2.07	20.42
1944	0.20	1.75	10.67	0.41	0.03	0.96	0.00	0.00	0.00	0.76	0.38	1.69	16.85
1945	0.29	0.25	0.09	9.37	0.82	0.00	0.76	0.06	0.79	0.15	0.25	1.53	14.36
1946	7.73	0.48	0.42	0.10	0.74	0.02	0.25	0.00	0.03	4.20	1.07	3.45	18.49
1947	0.91	0.66	0.80	0.64	1.63	0.00	0.31	0.06	0.35	0.42	0.64	1.44	7.86
1948	11.08	4.38	0.87	1.58	0.05	0.17	0.05	0.00	1.06	0.00	1.55	0.72	21.51
1949	6.42	3.55	0.00	0.90	0.00	0.26	0.14	0.00	0.00	0.00	1.10	1.02	13.39
1950	7.93	0.71	0.47	5.74	0.00	0.00	0.00	2.16	0.00	0.13	11.81	5.57	34.52
1951	1.15	3.77	16.26	0.00	0.13	0.08	0.00	0.20	0.00	1.83	0.00	3.24	26.66
1952	4.78	0.31	0.34	0.12	0.15	0.00	0.20	0.00	0.00	2.20	0.36	0.00	8.46
1953	0.46	0.57	0.00	0.78	0.00	0.00	0.00	0.00	0.00	0.01	0.39	1.98	4.19
1954	0.92	1.51	3.88	2.54	0.10	0.00	0.50	0.00	0.00	0.39	2.41	4.91	17.16
1955	2.46	7.33	3.98	0.33	0.22	0.00	0.00	0.45	0.00	0.00	6.85	8.31	29.93
1956	5.43	1.85	0.36	0.90	0.24	0.01	0.94	0.16	1.00	2.44	6.08	1.25	20.66
1957	2.99	0.87	0.25	0.89	1.30	0.03	0.00	0.20	0.00	0.06	3.19	2.80	12.58
1958	0.63	3.78	9.05	0.27	0.06	0.11	0.42	1.49	0.34	1.80	0.53	5.52	24.00
1959	7.88	3.11	0.13	0.71	0.00	0.00	0.00	0.08	0.12	0.24	2.98	1.45	16.70
Mean	3.44	2.56	2.95	1.46	0.70	0.14	0.19	0.32	0.43	1.38	2.29	2.53	18.50

STATION NO. 534 - KUALAPUU

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1905	2.50	0.16	2.09	4.57	1.13	1.16	1.91	1.71	1.60	0.71	1.60	3.92	23.06
1906	3.94	0.48	5.10	2.91	1.06	0.32	0.10	0.79	0.70	1.69	3.29	15.68	36.06
1907	16.01	5.57	2.04	3.52	2.18	0.43	2.90	2.96	2.28	1.51	3.50	1.55	44.45
1908	0.70	0.97	6.20	0.72	0.63	0.47	0.40	0.83	0.95	0.13	1.46	1.98	15.44
1909	2.03	4.17	4.94	2.50	1.50	0.77	1.93	0.31	0.83	2.91	0.93	7.30	30.12
1910	4.06	2.60	1.09	4.09	1.63	1.18	0.89	1.70	1.23	1.09	3.46	4.73	27.75
1911	4.14	10.99	3.96	1.08	0.57	0.62	0.85	0.57	1.56	0.78	1.30	1.62	28.04
1912	0.82	3.50	3.38	2.36	0.53	0.71	0.72	0.47	0.79	0.31	2.23	0.48	16.30
1913	1.33	1.16	3.80	2.37	4.47	1.75	0.60	1.62	2.19	1.02	4.82	1.74	26.87
1914	7.02	1.51	4.17	2.43	3.27	1.57	0.71	1.12	1.25	1.53	4.00	4.88	33.46
1915	1.90	3.12	2.50	3.08	1.19	1.11	0.10	T	1.08	1.97	4.56	5.39	26.00
1916	26.18	3.13	4.95	3.40	6.20	2.45	0.35	--	--	0.45	3.07	6.25	--
1917	12.95	3.15	5.40	2.05	3.80	0.55	0.60	0.60	3.40	0.95	5.35	2.42	41.22
1918	6.93	7.91	5.23	12.15	0.45	1.09	0.80	1.67	0.12	1.11	2.64	4.68	44.78
1919	3.04	0.90	3.07	1.72	1.26	0.23	0.57	1.60	0.41	3.50	0.64	2.61	19.55

Table 4. MONTHLY AND ANNUAL RAINFALL AT GAGES WITH RECORDS OF 15 OR MORE CONTINUOUS YEARS *(continued)*

STATION NO. 534 - KUALAPUU (Continued)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1920	3.11	0.50	2.08	1.85	1.70	0.41	0.65	0.52	0.08	0.60	2.98	6.74	21.22
1921	9.11	1.61	2.13	1.24	0.75	0.16	0.41	0.22	0.24	3.18	5.22	9.22	33.49
1922	4.00	2.67	2.54	1.75	0.10	0.17	0.32	0.49	3.02	2.78	1.91	0.25	20.00
1923	15.09	7.35	5.95	5.75	0.04	0.39	0.60	0.26	1.11	--	1.82	--	--
1924	0.34	3.07	1.99	4.62	1.81	0.37	1.88	0.94	0.66	0.79	4.83	8.10	29.40
1925	0.80	1.81	2.23	3.16	1.17	1.17	1.28	--	0.96	3.41	2.59	4.75	--
1926	3.47	1.79	1.55	1.15	0.36	2.45	0.69	1.43	1.22	4.63	1.66	--	--
1927	7.28	3.74	5.20	12.15	1.44	--	--	--	1.76	0.26	5.93	12.81	--
1928	1.82	3.27	2.31	2.03	2.67	0.67	1.91	0.46	0.05	0.12	1.79	1.56	18.66
1929	11.92	2.69	0.47	0.61	1.42	0.48	0.71	0.55	0.75	0.36	10.85	9.54	40.35
1930	5.30	7.38	5.09	0.97	0.27	0.77	0.08	0.37	3.61	1.78	9.57	0.85	36.04
1931	0.58	1.04	3.59	3.43	1.84	1.27	1.15	1.14	3.10	5.27	1.47	2.88	26.75
1932	0.84	10.08	3.06	2.35	1.10	1.16	0.57	0.38	1.18	1.18	1.64	4.18	27.72
1933	0.63	4.22	5.96	2.07	0.46	0.26	0.28	0.35	0.32	0.20	2.62	8.34	25.72
1934	3.10	3.93	2.65	4.25	2.43	1.40	0.41	0.66	1.50	1.90	4.05	1.71	27.99
1935	4.51	2.85	5.12	0.29	1.40	2.01	0.35	0.46	0.38	2.67	1.66	3.09	24.79
1936	2.68	1.68	4.56	5.08	1.60	1.05	0.53	1.09	1.62	5.64	4.04	3.05	32.62
1937	3.98	14.36	4.43	1.81	2.02	1.17	2.23	2.07	0.41	0.50	2.57	4.47	40.02
1938	3.85	3.93	3.72	10.14	3.13	0.65	2.53	3.72	0.09	1.73	0.95	3.27	37.71
1939	3.67	1.58	2.15	10.43	2.78	0.38	0.24	0.56	1.59	8.42	4.73	2.47	39.00
1940	6.95	1.73	5.54	1.54	5.11	0.95	0.58	2.32	2.25	1.70	5.43	5.60	39.70
1941	1.88	1.08	3.78	0.12	1.88	0.66	0.41	0.47	0.48	5.17	1.42	3.02	20.37
1942	1.12	5.29	11.80	2.76	0.18	0.52	0.83	1.48	0.41	7.92	3.17	5.66	41.14
1943	9.30	3.88	4.54	1.62	4.12	0.04	1.24	1.59	0.31	0.23	0.62	3.75	31.24
1944	0.93	2.44	10.83	2.30	0.13	1.32	0.29	0.37	0.04	2.20	1.54	3.56	25.95
1945	0.47	0.63	2.18	12.16	0.85	0.28	0.81	0.53	1.33	1.18	0.76	2.66	23.84
1946	9.86	1.08	1.94	0.78	1.65	0.42	1.33	0.78	0.52	3.66	1.90	6.10	30.02
1947	2.20	2.16	2.67	2.85	4.85	0.44	0.46	0.42	0.81	1.66	1.94	3.11	23.57
1948	13.24	4.97	1.43	2.59	0.39	0.53	0.65	1.14	1.14	0.75	2.45	2.75	32.03
1949	8.04	3.57	0.60	1.51	0.15	0.48	0.99	0.29	0.32	0.12	2.08	1.15	19.30
1950	8.68	2.61	2.11	4.85	0.34	0.14	0.46	2.82	0.36	1.58	16.07	8.19	48.21
1951	2.29	3.96	20.37	0.85	0.53	0.17	0.38	1.01	0.43	3.18	0.80	4.14	38.11
1952	6.17	0.78	0.82	0.61	0.98	0.18	1.12	0.06	0.02	5.49	1.70	1.20	19.13
1953	1.02	0.94	1.67	1.09	1.70	0.30	0.15	0.21	0.20	0.86	2.09	2.99	13.22
1954	1.19	2.21	5.46	3.62	1.68	1.03	2.58	0.77	0.27	0.70	3.05	8.27	30.83
1955	4.59	13.72	5.51	0.75	0.52	0.50	0.48	2.01	0.67	0.44	6.03	8.49	43.71
1956	6.97	2.90	0.78	2.73	0.62	0.66	0.55	1.21	0.84	2.61	6.68	1.32	27.87
1957	3.89	1.82	1.49	2.82	0.88	0.23	0.65	1.91	0.10	0.27	4.44	5.22	23.72
1958	1.07	1.79	13.11	1.34	1.29	0.72	3.27	4.48	1.02	3.65	1.42	7.69	40.85
1959	9.26	5.23	0.73	3.41	0.89	0.21	0.45	1.38	0.73	0.42	4.01	2.59	29.31
Mean	5.07	3.48	4.04	3.17	1.58	0.75	0.89	1.09	1.01	2.02	3.33	4.53	30.20

STATION NO. 537 - POHOLUA

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1933	0.35	3.24	1.60	0.10	0.30	0.10	1.33	0.40	0.10	0.00	2.25	9.25	19.02
1934	0.02	3.62	0.75	3.02	2.10	1.17	1.03	0.25	0.02	1.23	3.00	1.80	18.01
1935	5.10	3.00	10.61	2.83	0.14	0.14	0.06	0.01	0.03	1.11	0.06	0.18	23.27
1936	0.10	2.20	4.51	4.18	5.17	1.77	0.84	0.03	0.53	5.76	2.77	1.09	28.95
1937	2.09	27.68	9.32	0.13	0.10	0.29	0.09	3.34	0.50	0.77	0.23	5.90	50.44
1938	7.59	1.87	8.25	29.78	1.08	0.03	0.03	5.68	0.00	0.04	0.03	5.66	60.05
1939	5.21	3.34	1.57	18.00	6.11	1.29	0.09	0.03	0.13	8.25	6.82	2.81	53.65

Table 4. MONTHLY AND ANNUAL RAINFALL AT GAGES WITH RECORDS OF 15 OR MORE CONTINUOUS YEARS *(continued)*

STATION NO. 537 - POHOLUA (Continued)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1940	17.03	0.14	6.61	0.55	4.59	0.16	0.02	6.17	5.93	5.09	8.35	14.12	68.76
1941	2.83	0.59	5.06	0.59	2.26	1.53	1.75	0.80	1.35	15.22	0.10	2.26	34.36
1942	0.04	3.11	13.15	2.50	1.51	0.45	0.40	1.45	1.20	2.75	4.80	1.50	32.86
1943	4.30	1.95	10.75	3.87	6.15	0.08	4.80	4.95	2.30	1.20	2.20	4.40	46.95
1944	3.70	10.25	14.90	6.66	0.33	2.05	1.61	0.55	0.34	3.38	5.58	5.40	54.75
1945	2.05	3.30	5.84	11.00	1.26	0.45	1.74	2.20	1.30	1.51	1.49	2.77	34.91
1946	8.23	3.38	3.87	2.55	1.78	0.93	3.11	1.09	1.18	4.41	2.63	8.73	41.89
1947	3.18	1.16	2.97	2.91	4.37	1.52	2.29	0.51	2.59	1.99	2.00	3.65	29.14
1948	9.50	5.84	2.05	4.37	2.26	0.84	3.70	2.52	0.76	2.00	4.45	4.13	42.42
1949	14.05	1.95	1.56	2.83	4.10	1.00	3.82	2.50	0.40	0.33	3.50	2.45	38.49
1950	11.26	3.33	3.53	3.85	6.39	1.19	1.40	4.87	0.32	2.82	12.93	11.30	63.11
1951	6.97	4.66	20.89	5.58	1.72	0.70	1.74	1.14	0.43	3.63	6.88	10.69	65.03
1952	9.21	2.70	2.98	1.63	1.85	1.69	2.36	0.23	0.28	5.14	4.72	3.41	36.20
1953	2.19	1.25	2.81	1.73	2.03	2.19	0.71	0.97	0.03	1.08	2.53	3.57	21.09
1954	1.31	4.40	9.52	1.56	1.20	4.45	5.28	2.18	0.22	1.48	0.00	1.49	33.09
1955	7.14	14.93	6.79	0.87	1.57	1.13	2.24	3.05	1.56	0.65	11.86	10.86	62.65
1956	5.19	6.30	2.41	3.70	0.55	0.00	1.85	2.18	1.18	3.94	1.58	7.02	35.90
1957	8.44	4.15	2.60	4.40	2.46	0.68	1.23	5.51	1.58	0.06	4.48	11.86	47.45
1958	0.86	5.37	14.07	1.31	4.05	1.95	6.34	6.82	2.72	3.47	5.37	7.00	59.33
1959	7.45	2.22	--	--	0.21	0.54	0.08	--	--	--	1.08	0.15	--
Mean	5.38	4.66	6.50	4.63	2.43	1.05	1.85	2.28	1.04	3.00	3.77	5.31	42.38

STATION NO. 540 - WAIKOLU

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1930	--	3.05	10.30	10.10	1.85	2.05	2.35	1.35	5.75	2.30	12.21	3.80	--
1931	3.25	4.00	6.25	11.00	5.50	3.50	6.76	3.35	8.45	2.40	5.20	6.85	66.51
1932	1.72	21.00	5.25	5.45	0.32	0.43	0.50	1.66	0.60	0.17	1.17	4.81	43.08
1933	1.15	6.20	2.90	0.61	0.90	0.30	2.69	0.51	0.34	0.02	8.75	12.25	36.62
1934	0.10	2.55	1.25	16.75	9.76	3.50	2.69	1.50	0.07	0.08	4.90	4.43	49.58
1935	8.36	5.67	15.25	4.84	0.41	0.72	1.27	1.25	0.13	2.11	2.18	2.73	44.92
1936	2.10	1.82	7.57	7.12	8.05	2.24	1.42	1.06	1.82	8.15	6.28	3.03	52.66
1937	4.91	30.85	13.51	1.20	0.19	1.91	1.20	6.46	1.03	2.18	1.93	9.72	75.09
1938	10.98	3.80	16.59	2.95	2.32	0.53	0.10	9.55	0.03	1.14	0.24	13.89	62.12
1939	15.59	7.00	5.09	7.73	9.82	2.68	1.52	0.11	0.58	12.97	10.29	5.05	78.34
1940	20.51	0.86	9.43	0.88	9.00	0.61	0.08	8.69	8.98	5.45	12.23	19.86	96.58
1941	6.08	2.75	7.63	2.11	4.66	3.18	2.30	1.75	3.20	19.09	0.21	3.48	57.44
1942	0.08	3.49	15.80	4.65	2.57	0.95	0.35	2.95	2.20	4.41	7.35	2.80	47.60
1943	7.45	3.95	18.40	5.37	9.10	0.25	7.60	7.85	3.55	2.89	1.88	8.75	77.04
1944	5.35	17.20	15.95	9.53	0.85	3.67	3.60	1.29	0.38	7.76	10.10	9.68	85.36
1945	5.10	5.65	10.41	16.93	1.00	0.74	1.80	5.28	3.87	2.59	2.64	5.73	61.74
1946	12.07	6.27	7.35	4.18	1.39	1.16	5.07	0.98	1.61	6.59	4.42	13.89	64.98
1947	4.87	1.69	4.81	5.65	7.38	3.35	3.30	1.20	5.24	3.75	5.05	7.90	54.21
1948	14.83	10.24	6.21	7.03	4.58	3.05	9.00	5.25	1.35	4.35	9.55	10.10	85.54
1949	22.20	3.68	2.66	5.90	6.53	1.10	6.55	5.35	0.75	0.99	8.10	5.30	69.11
1950	15.85	5.65	7.45	8.08	12.56	2.15	2.08	12.24	1.22	4.23	26.38	17.95	115.84
1951	19.17	9.12	27.87	5.21	2.46	1.69	3.02	3.73	1.64	5.39	12.70	17.25	109.25
1952	12.15	7.98	7.36	3.95	5.26	4.90	3.71	1.94	2.28	10.32	6.96	7.60	74.41
1953	3.09	3.58	0.00	2.96	8.33	4.64	1.73	2.86	0.53	2.97	4.80	3.07	38.56
1954	3.67	2.54	11.86	3.27	1.99	5.61	8.84	5.70	2.52	2.31	0.00	2.43	50.74

Table 4. MONTHLY AND ANNUAL RAINFALL AT GAGES WITH RECORDS OF 15 OR MORE CONTINUOUS YEARS *(continued)*

STATION NO. 540 - WAIKOLU (Continued)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1955	13.48	33.20	18.74	4.89	4.66	2.61	4.54	8.10	2.85	3.66	2.33	12.02	111.02
1956	6.24	18.82	3.31	12.00	4.21	6.80	3.58	3.94	2.29	7.17	2.93	8.88	80.17
1957	8.33	7.87	4.54	13.87	4.60	1.95	3.77	10.21	3.26	1.15	9.23	25.02	93.80
1958	4.40	13.45	18.25	2.97	9.97	5.97	11.36	16.01	4.89	9.57	14.45	14.49	125.76
1959	20.32	10.99	5.29	11.37	3.82	2.65	3.42	8.75	3.27	0.86	6.69	14.39	91.75
Mean	8.74	8.50	9.58	6.62	4.80	2.50	3.54	4.70	2.49	4.57	6.70	9.24	72.41

STATION NO. 542 - MAPULEHU

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1921	9.49	1.23	1.05	3.48	1.50	0.94	3.49	1.57	3.73	--	--	6.78	--
1922	--	--	--	--	--	--	0.75	2.43	--	--	--	1.09	--
1923	15.43	2.25	7.78	11.17	0.88	2.13	2.43	1.50	2.45	3.30	1.84	6.02	57.18
1924	--	--	--	--	--	--	7.59	--	--	--	--	--	--
1925	0.59	1.55	3.67	3.25	2.89	4.55	--	--	1.16	4.11	2.00	7.83	--
1926	2.05	0.35	0.87	0.63	0.31	2.07	2.99	2.03	3.33	2.12	0.12	2.09	18.96
1927	4.14	3.32	7.16	5.99	4.38	2.18	4.41	4.57	3.70	2.88	5.65	12.91	61.29
1928	4.63	2.53	1.65	4.97	4.45	4.52	7.68	2.04	1.20	3.50	2.15	3.70	43.02
1929	7.89	8.35	1.51	1.57	1.02	1.97	1.91	--	1.64	1.75	9.61	7.39	--
1930	8.45	1.28	5.00	3.13	1.65	2.71	0.75	0.65	5.47	3.25	5.42	1.70	39.46
1931	1.61	2.30	3.93	1.08	---	--	--	--	--	--	--	--	--
1932	--	10.11	2.91	5.39	4.90	2.94	3.95	2.02	4.38	1.42	2.56	1.87	--
1933	3.09	5.42	7.22	1.57	1.16	1.52	2.52	1.72	0.88	0.84	2.40	8.50	36.84
1934	2.17	3.62	1.71	2.55	5.58	3.84	3.11	1.61	--	3.79	4.66	2.42	--
1935	4.35	2.95	6.92	1.51	1.51	3.19	3.47	--	1.95	1.45	2.40	1.91	--
1936	2.28	1.06	3.50	1.81	4.50	3.37	4.90	2.18	3.63	8.17	1.31	5.48	42.19
1937	3.72	13.83	8.21	3.05	3.16	1.36	6.67	5.87	1.90	4.90	4.20	7.94	64.81
1938	2.12	3.88	3.64	4.45	3.38	2.32	3.54	5.41	0.80	3.62	1.38	2.58	37.12
1939	6.40	2.40	3.20	11.90	3.11	3.80	1.93	2.93	6.67	9.22	5.85	2.38	59.79
1940	7.00	2.50	2.05	2.35	6.23	2.45	1.50	7.66	2.89	4.56	5.12	3.88	48.19
1941	1.05	0.82	1.37	1.50	2.20	3.25	2.11	2.65	3.70	6.05	1.65	2.10	28.45
1942	0.97	5.86	7.87	3.30	1.40	1.98	2.45	3.70	1.90	2.90	2.45	4.75	39.53
1943	13.04	4.37	7.46	1.70	5.25	1.30	0.75	3.75	1.65	4.20	1.10	2.30	46.87
1944	0.65	3.45	10.45	0.90	1.60	2.40	1.40	1.10	1.10	1.02	5.35	3.20	32.62
1945	0.00	0.40	0.70	5.90	1.30	0.50	1.80	1.00	0.00	0.85	1.30	2.32	26.07
1946	8.95	1.10	4.20	2.95	1.65	2.00	2.20	1.55	1.20	4.25	5.45	7.00	42.50
1947	0.80	0.10	3.20	2.20	4.15	2.45	2.05	1.40	7.00	3.60	1.35	3.00	31.30
1948	10.60	4.25	2.28	2.75	2.16	1.85	1.60	1.46	4.81	2.53	2.94	--	--
1949	3.10	4.50	1.00	2.30	0.60	0.82	3.10	1.20	4.81	1.55	2.15	1.90	27.03
1950	5.51	3.60	1.50	3.40	2.00	1.10	6.04	4.10	1.40	3.00	11.14	6.80	49.59
1951	2.60	4.60	11.00	0.80	1.10	0.90	1.30	3.65	0.90	4.17	2.27	2.90	36.19
1952	9.27	4.80	2.91	1.74	1.64	3.00	2.72	1.28	1.63	5.40	5.76	3.42	43.57
1953	1.28	2.39	2.10	1.37	3.02	0.46	1.32	1.73	0.84	1.34	2.08	4.02	21.95
1954	0.90	2.03	5.12	1.60	1.97	2.10	7.63	3.01	2.51	2.80	4.99	8.18	42.84
1955	3.54	7.66	4.66	1.49	2.27	2.10	3.29	4.14	1.74	2.00	8.94	8.80	50.63
1956	4.02	7.13	3.00	2.10	2.58	3.55	2.49	3.42	1.75	4.02	3.42	1.83	39.31
1957	3.17	4.48	1.54	4.08	1.91	1.06	1.49	4.50	1.43	1.53	5.18	5.76	36.13
1958	1.96	4.43	6.41	1.46	3.52	2.54	6.61	4.90	2.99	4.75	2.21	3.74	45.52
1959	7.56	4.81	2.77	2.17	2.01	1.66	2.03	2.44	2.00	2.29	3.04	3.54	36.32
Mean	4.57	3.78	4.09	3.07	2.58	2.25	3.13	2.80	2.55	3.35	3.70	4.50	40.87

Table 4. MONTHLY AND ANNUAL RAINFALL AT GAGES WITH RECORDS OF 15 OR MORE CONTINUOUS YEARS *(continued)*

STATION NO. 550 - KEPUHI

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1933	--	--	--	--	--	--	--	--	--	--	0.09	3.77	--
1934	0.10	3.63	0.63	0.00	0.00	0.96	0.00	0.18	1.56	1.19	1.55	3.43	13.22
1935	1.39	0.00	1.41	0.00	0.00	0.30	0.00	1.25	0.00	0.51	1.55	0.00	6.41
1936	1.78	0.00	0.46	1.02	0.18	0.00	0.00	0.00	0.00	6.78	1.31	0.78	12.51
1937	4.54	0.26	1.39	0.00	2.90	0.00	0.09	0.00	0.00	0.09	0.00	1.10	11.37
1938	0.26	0.00	3.32	0.00	0.00	0.00	0.19	0.43	0.00	1.45	0.00	2.80	8.45
1939	3.00	0.00	2.49	6.60	0.00	0.00	0.00	0.00	1.40	6.25	0.79	0.62	21.15
1940	3.95	0.00	2.67	1.97	0.10	0.00	0.00	0.04	0.33	0.39	2.54	0.79	12.78
1941	0.78	0.06	0.11	0. 00	0.00	0.00	0.00	0.08	0.00	4.99	0.00	0.14	6.16
1942	0.00	1.10	1.43	2.47	0.00	0.00	1.60	0.35	0.27	6.70	7.20	3.08	24.20
1943	11.70	0.00	4.06	0.00	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.10	16.50
1944	--	--	--	--	--	--	--	--	--	--	--	--	--
1945	--	--	--	--	--	--	--	--	--	--	--	--	--
1946	0.90	0.00	0.00	0.00	0.00	0.03	0.07	0.00	0.00	0.77	0.51	1.82	4.10
1947	0.14	0.00	1.07	0.91	1.97	0.00	0.00	0.39	1.13	0.00	0.93	1.36	7.90
1948	12.31	4.40	0.00	2.04	0.00	2.30	0.00	0.05	0.24	0.00	1.50	1.23	24.08
1949	6.47	2.86	0.00	0.08	0.85	1.18	0.00	0.00	0.00	0.00	0.34	1.15	12.93
1950	11.97	0.99	0.06	3.58	2.88	0.00	0.00	0.62	0.00	0.00	10.51	3.32	39.33
1951	0.63	2.72	9.36	0.00	0.00	0.14	0.00	0.00	0.00	0.31	0.20	1.61	14.97
1952	6.25	0.00	0.00	0.00	0.10	0.00	0.07	0.00	0.06	1.28	0.49	0.00	8.25
1953	1.24	0.92	3.23	0.36	0.42	--	--	--	--	0.32	0.31	1.54	--
1954	1.90	3.30	3.36	1.23	--	--	1.57	--	--	0.67	5.26	3.02	--
1955	1.05	3.92	6.55	0.00	0.00	0.00	0.00	0.11	0.15	0.00	4.27	5.30	21.35
1956	4.94	2.09	0.00	0.00	0.00	0.00	0.57	0.56	0.80	0.41	2.99	3.53	15.89
1957	4.25	0.33	0.00	1.50	0.12	0.00	0.00	2.13	0.05	0.00	4.28	3.51	16.17
1958	0.82	2.10	5.51	0.14	--	0.09	0.19	1.80	0.33	1.58	0.33	2.35	15.24
1959	4.82	2.42	--	--	0.24	--	0.07	0.89	--	--	1.53	0.30	10.27
Mean	3.55	1.30	2.05	0.95	0.47	0.24	0.19	0.40	0.30	1.46	1.94	1.87	14.74

STATION NO. 551 - KEONELELE PENS

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1933	--	--	--	--	--	--	--	--	--	--	0.15	0.21	--
1934	0.07	2.26	0.65	0.00	0.00	0.74	0.00	0.09	0.57	1.66	1.24	1.68	8.96
1935	0.52	0.00	0.69	0.00	0.00	0.59	0.00	0.00	0.00	0.54	0.67	0.00	3.01
1936	0.00	0.00	0.27	0.74	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.14
1937	5.69	0.33	2.20	0.83	4.10	0.00	0.29	0.00	0.00	0.16	0.00	1.25	14.85
1938	0.58	0.00	3.53	0.00	0.00	0.00	0.06	0.47	0.00	1.55	0.00	3.79	9.98
1939	4.80	0.00	2.47	5.50	0.00	0.00	0.00	0.00	1.79	5.90	1.09	0.30	21.85
1940	4.32	0.00	2.22	2.01	0.15	0.00	0.00	0.07	0.34	0.37	2.75	1.39	13.62
1941	0.80	0.06	0.19	0.00	0.00	0.00	0.00	0.10	0.00	6.19	0.00	0.10	7.44
1942	0.25	0.57	1.70	2.40	0.00	0.00	1.80	0.00	1.35	8.50	7.70	3.02	27.29
1943	12.02	0.00	0.28	0.00	0.59	0.00	0.00	0.00	0.00	0.00	0.00	0.32	13.21
1944	--	--	--	--	--	--	--	--	--	--	--	--	--
1945	--	--	--	--	--	--	--	--	--	--	--	--	--
1946	0.00	0.87	0.00	0.60	0.00	0.00	0.11	0.00	0.00	1.35	0.40	1.51	4.84
1947	0.00	0.00	1.21	1.10	0.46	0.00	0.00	0.48	0.89	0.21	1.11	0.59	6.05
1948	6.16	4.50	0.00	0.98	0.00	1.91	0.00	0.05	0.14	--	1.62	1.14	16.50
1949	7.41	2.92	0.00	0.12	0.00	0.41	0.00	0.00	0.00	0.00	0.35	1.21	12.42

STATION NO. 551 - KEONELELE PENS (Continued)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1950	12.59	0.97	0.09	3.05	2.43	0.00	0.00	1.63	0.00	0.10	13.32	0.98	35.16
1951	0.98	4.79	14.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.94	22.40
1952	6.34	0.00	0.00	0.00	0.37	0.00	0.38	0.00	0.00	1.93	1.07	0.00	10.09
1953	1.98	0.60	3.94	1.29	0.76	0.00	0.00	0.21	0.00	0.61	0.29	2.48	12.16
1954	1.24	4.41	4.60	1.02	0.00	0.29	2.11	0.00	0.00	0.43	4.36	3.62	22.08
1955	1.84	6.06	8.15	0.00	0.00	0.00	0.00	0.38	0.54	0.00	4.43	6.55	27.95
1956	5.92	2.61	0.00	0.00	0.00	0.00	0.00	0.71	0.96	0.61	4.26	3.46	18.53
1957	3.65	0.31	0.00	1.95	0.23	0.00	0.00	1.60	0.04	0.00	5.13	2.79	15.70
1958	0.73	3.11	8.22	0.27	--	0.24	0.27	2.78	0.69	2.44	0.54	4.04	--
1959	6.03	2.78	--	--	0.27	--	--	1.13	--	--	1.69	0.34	--
Mean	3.50	1.55	2.40	0.95	0.41	0.18	0.22	0.40	0.32	1.48	2.09	1.71	14.78

STATION NO. 557 - GAGE 23

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1928	2.17	4.57	1.32	1.35	0.23	2.19	1.92	2.66	--	--	1.16	0.52	--
1929	9.72	--	--	--	1.43	0.36	0.49	0.58	1.14	1.52	13.05	9.49	--
1930	6.52	3.09	2.46	1.19	--	--	--	--	3.21	1.62	14.58	--	--
1931	--	--	2.89	2.56	1.88	1.14	0.31	1.29	2.68	2.38	0.59	3.75	--
1932	1.15	9.62	2.14	1.58	0.57	1.51	0.40	0.56	0.66	0.48	0.43	3.15	22.25
1933	0.41	3.51	3.28	1.57	0.16	--	--	0.02	0.06	--	--	6.82	--
1934	0.84	2.73	1.20	2.32	0.98	0.15	0.14	0.28	0.43	1.98	2.50	1.15	14.70
1935	2.77	1.55	5.54	--	--	3.64	--	--	--	--	1.05	0.93	--
1936	1.77	0.58	3.48	6.66	0.48	0.85	--	--	--	5.85	3.55	2.02	--
1937	5.53	14.66	5.28	1.80	1.72	0.31	1.74	1.12	--	--	1.29	3.44	--
1938	1.91	4.94	2.27	8.57	5.90	--	--	2.28	--	--	0.38	1.62	--
1939	2.37	1.23	1.00	9.22	1.22	--	--	--	1.44	9.15	2.19	1.26	--
1940	4.77	1.84	3.55	1.05	4.13	0.43	0.80	1.10	0.45	0.70	4.46	3.76	27.04
1941	2.15	0.41	2.06	--	--	0.68	0.25	0.04	0.15	4.82	0.50	1.03	--
1942	0.36	5.83	9.55	1.81	0.12	--	--	0.34	--	--	6.14	5.73	--
1943	15.80	1.96	3.95	0.52	2.02	--	--	--	--	--	0.15	3.32	--
1944	1.05	2.48	16.16	2.93	--	--	--	--	--	--	--	--	--
1945	0.65	0.32	0.98	14.54	0.54	--	--	--	--	0.18	0.71	2.13	--
1946	14.18	--	--	--	--	0.07	1.19	0.37	0.16	2.35	1.27	5.31	--
1947	1.71	1.40	3.55	0.64	5.24	0.00	0.00	0.24	1.36	1.45	1.80	1.33	18.72
1948	9.17	5.73	1.32	2.01	0.80	0.76	0.41	1.30	0.95	0.56	3.71	2.44	29.16
1949	7.70	3.62	0.05	1.88	0.27	0.19	0.63	0.08	0.00	0.13	2.31	1.11	17.97
1950	9.30	1.97	1.05	7.15	0.52	0.22	0.68	1.73	0.25	0.91	9.72	8.68	42.18
1951	1.31	4.44	16.93	0.64	0.53	0.00	0.28	0.85	0.99	1.62	0.41	4.06	32.06
1952	5.21	1.17	0.53	0.28	1.55	0.00	1.23	0.07	0.00	3.83	0.94	1.49	16.30
1953	0.52	0.36	0.91	0.54	0.92	0.18	0.00	0.00	0.40	0.13	0.15	2.04	6.79
1954	1.23	1.67	5.48	2.37	1.43	1.06	3.36	0.65	0.22	0.59	2.96	6.13	27.15
1955	3.09	7.84	4.70	0.89	0.59	0.79	0.62	1.81	1.03	0.95	6.12	7.32	35.75
1956	6.40	2.99	0.84	2.34	0.89	0.77	1.10	1.32	1.28	1.56	3.40	3.78	26.67
1957	4.19	1.23	1.60	2.40	0.48	0.13	0.78	2.50	0.14	0.26	5.17	4.74	23.62
1958	0.91	3.69	8.28	1.11	1.07	0.91	2.36	2.99	0.72	3.35	1.41	5.52	32.32
1959	8.28	3.43	0.52	1.39	1.42	0.30	0.30	1.36	0.40	0.34	2.18	1.44	21.36
Mean	4.29	3.41	3.76	2.90	1.37	0.69	0.86	1.02	0.79	1.95	3.14	3.52	24.63

STATION NO. 559 - MAALEHUA

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1933	2.06	6.92	6.01	2.20	0.92	0.26	1.41	1.14	0.60	0.67	2.29	9.12	33.60
1934	0.97	7.22	3.33	8.82	5.13	2.64	1.52	0.55	1.15	4.81	6.94	3.68	46.76
1935	5.46	2.18	4.76	4.68	2.02	1.05	1.31	0.52	0.98	2.40	2.34	4.37	32.07
1936	2.40	4.97	4.93	9.06	6.50	2.44	1.38	1.42	3.03	4.23	4.41	3.90	48.67
1937	2.74	16.74	2.26	3.23	4.07	1.73	1.59	4.73	1.08	1.37	3.93	3.94	47.41
1938	9.01	3.94	6.60	17.45	9.59	1.33	5.56	5.96	1.36	2.74	4.20	7.14	74.88
1939	6.83	3.02	3.91	13.16	7.28	1.30	1.46	1.46	2.56	14.18	7.09	3.37	65.62
1940	7.90	3.35	7.42	2.98	6.54	1.52	0.90	5.82	4.59	2.63	6.92	7.99	58.56
1941	4.49	0.49	8.96	1.83	3.28	3.24	2.37	2.95	1.46	10.94	1.80	4.84	46.65
1942	2.09	6.74	18.16	2.39	3.29	0.06	0.21	1.65	0.62	12.26	3.65	9.75	60.87
1943	9.32	2.22	8.85	3.82	6.11	0.37	2.22	2.46	0.40	0.63	1.27	2.72	40.39
1944	4.16	4.10	7.96	6.79	0.44	2.39	2.15	0.58	0.72	3.99	1.69	5.10	40.07
1945	2.34	0.89	1.58	19.77	0.60	0.18	2.20	0.59	0.75	1.68	0.89	1.82	33.29
1946	4.74	2.86	1.16	2.06	3.11	0.89	1.93	1.05	1.12	3.44	1.76	9.73	33.85
1947	3.01	0.75	8.11	2.38	6.80	0.87	1.34	0.67	1.12	2.83	1.59	6.03	35.50
1948	12.55	7.79	5.87	4.54	2.22	2.14	2.98	2.08	0.00	0.00	2.90	2.10	45.17
1949	9.10	5.20	0.00	1.45	0.00	0.95	3.93	0.76	0.50	0.00	3.50	0.99	26.38
1950	9.32	3.14	5.10	5.77	1.60	0.55	1.24	3.66	0.55	1.58	19.55	12.43	64.49
1951	2.49	6.64	17.78	1.16	1.31	0.37	1.28	1.62	1.36	3.69	2.12	6.02	45.84
1952	6.64	2.96	2.03	1.50	1.75	0.73	2.67	0.78	0.11	8.38	3.11	5.47	37.13
1953	1.96	1.09	2.76	1.93	4.60	1.07	0.41	0.62	0.32	1.57	2.77	3.43	22.53
1954	0.48	2.91	4.96	3.29	2.91	1.81	3.90	3.08	0.00	0.00	3.90	11.93	39.17
1955	5.50	14.98	4.26	1.31	0.66	1.29	0.00	2.77	0.67	1.34	4.32	6.20	44.07
1956	7.66	5.93	1.80	6.14	1.67	2.79	1.00	4.05	0.92	3.38	7.02	0.41	42.77
1957	4.35	1.68	0.95	5.42	0.00	0.00	0.00	2.84	3.48	0.00	0.00	5.19	23.91
1958	--	10.58	2.73	1.94	--	--	--	--	--	--	--	11.40	--
1959	0.96	--	--	--	--	--	--	--	--	--	--	--	--
Mean	4.94	4.97	5.49	5.20	3.30	1.28	1.80	2.15	1.18	3.55	4.00	5.73	43.59

STATION NO. 560 - FIELD NO. 301

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1928	1.61	2.45	1.51	1.35	1.99	0.59	2.00	0.35	0.06	0.26	2.01	0.84	15.02
1929	14.69	4.25	0.49	1.61	0.94	0.68	0.70	0.83	0.94	0.40	10.98	8.76	45.27
1930	4.98	6.22	3.20	0.00	0.40	0.88	0.08	0.31	3.56	1.46	11.28	0.68	33.05
1931	0.52	0.75	4.34	2.74	1.92	1.31	0.81	1.01	3.13	4.05	1.57	2.36	24.51
1932	0.75	10.07	3.23	1.80	1.57	0.87	0.70	0.27	0.89	0.74	1.37	3.39	25.65
1933	0.81	3.53	5.22	1.10	0.15	0.18	0.25	0.20	0.00	0.05	1.91	7.01	20.41
1934	2.56	3.14	2.45	4.44	2.65	1.12	0.14	0.69	1.72	2.55	4.49	1.65	27.60
1935	3.83	2.16	4.24	1.08	0.97	2.88	0.29	0.07	0.18	3.04	0.85	3.23	22.82
1936	2.36	1.65	4.47	7.90	2.34	1.59	0.65	1.10	2.11	4.94	4.78	3.42	37.31
1937	3.74	13.79	5.45	2.86	2.60	1.25	2.18	2.41	0.63	0.90	2.65	5.31	43.77
1938	2.94	3.19	3.45	12.38	5.32	0.89	5.01	3.58	0.10	2.31	1.05	4.65	44.87
1939	3.06	2.00	2.38	9.91	3.92	0.67	0.18	1.18	1.86	8.18	5.85	2.91	42.10
1940	6.15	2.42	5.55	2.35	5.86	0.94	1.00	3.64	2.74	2.13	5.79	5.94	44.51
1941	2.41	1.41	5.07	0.05	2.89	1.42	0.30	0.31	0.65	7.94	1.01	1.80	25.26
1942	0.69	4.36	9.34	3.46	0.63	0.43	1.22	0.69	0.70	10.35	3.06	6.12	41.05
1943	8.64	3.42	3.89	2.08	3.95	0.15	1.07	1.27	0.25	0.49	0.63	2.64	28.48
1944	1.19	2.81	10.31	1.84	0.24	1.43	0.10	0.25	0.13	3.83	1.78	4.11	28.02

STATION NO. 560 - FIELD NO. 301 (Continued)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1945	0.23	1.08	2.02	14.09	0.47	0.33	1.30	0.59	0.31	0.92	0.90	3.69	25.93
1946	11.86	0.98	2.26	1.31	1.85	0.86	2.59	0.95	0.86	3.32	2.54	8.29	37.67
1947	3.22	2.53	3.53	1.65	6.63	0.91	0.60	1.05	1.37	2.08	3.12	3.29	29.98
1948	11.83	6.10	1.90	3.70	2.05	0.92	2.25	3.38	1.62	1.40	3.30	3.96	42.41
1949	8.89	3.75	1.18	2.55	0.63	0.85	1.82	0.51	0.40	0.10	3.52	1.05	25.23
1950	9.17	3.18	3.13	7.21	1.06	0.38	1.36	2.60	0.50	1.67	12.44	6.32	49.02
1951	1.25	3.72	15.31	0.86	0.89	0.40	0.65	1.20	1.31	3.12	0.67	7.24	36.62
1952	5.96	2.00	1.44	0.74	1.77	0.74	3.93	0.00	0.00	7.42	2.00	4.12	30.12
1953	1.95	1.47	1.83	1.75	2.55	0.68	0.74	0.16	0.32	0.67	3.22	3.71	19.05
1954	0.92	2.36	6.53	3.25	3.31	1.99	4.37	1.50	0.21	0.83	3.05	9.02	37.34
1955	6.16	13.14	6.54	1.20	0.77	1.32	0.61	2.74	1.20	0.60	4.90	8.34	47.52
1956	6.49	3.15	1.22	5.18	0.77	1.34	1.14	3.12	0.80	1.53	6.93	1.87	33.54
1957	4.18	1.98	2.10	2.44	0.36	0.44	1.19	5.94	0.43	0.81	8.33	7.07	35.27
1958	2.52	4.34	9.82	2.84	2.64	1.39	6.91	5.61	1.36	5.63	2.33	8.81	54.20
1959	8.06	5.12	1.13	6.61	2.34	0.31	0.65	2.00	0.54	1.32	3.99	3.09	35.16
Mean	4.49	3.83	4.20	3.51	2.08	0.94	1.46	1.55	0.96	2.66	3.82	4.52	34.02

STATION NO. 561 - FIELD 501

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1932	--	--	--	--	--	--	1.82	0.86	1.58	0.50	1.30	3.63	--
1933	1.70	3.66	9.89	0.66	0.31	0.50	0.75	0.93	0.26	0.28	2.77	10.52	32.23
1934	2.30	3.51	2.32	5.37	2.97	1.11	0.21	1.02	1.50	2.92	6.64	1.85	31.75
1935	4.93	2.32	4.77	0.99	1.26	4.88	0.74	0.40	0.31	2.03	1.40	3.17	27.20
1936	3.12	1.82	5.30	8.35	4.37	2.68	1.55	1.66	2.90	4.88	6.27	4.59	47.49
1937	4.88	13.52	7.86	2.61	3.80	1.22	2.81	2.86	1.16	1.87	3.07	8.18	53.84
1938	5.74	4.54	5.21	12.12	8.49	2.20	4.24	4.83	0.18	2.14	1.21	4.72	55.62
1939	3.94	2.76	3.01	10.63	2.63	1.06	0.59	1.22	3.71	10.44	4.49	3.62	48.10
1940	6.51	5.45	6.96	2.78	6.13	1.30	1.34	4.29	3.61	2.45	5.66	5.40	51.88
1941	1.58	1.45	2.70	0.07	1.14	0.72	0.00	0.54	0.92	7.07	1.00	1.51	18.70
1942	0.71	4.46	9.56	4.20	0.67	0.53	1.00	1.05	0.32	10.60	4.77	7.01	44.88
1943	6.49	2.86	3.52	1.76	4.53	0.18	0.84	0.83	0.33	0.58	0.53	2.32	24.73
1944	1.26	2.63	11.46	2.19	0.15	1.24	0.16	0.19	0.20	3.13	2.05	2.76	27.42
1945	0.30	0.93	1.20	13.77	0.36	0.11	1.91	0.77	0.21	0.28	0.58	2.69	23.11
1946	7.53	0.55	1.47	1.20	1.55	1.17	2.93	1.34	0.77	2.63	2.20	6.85	30.19
1947	4.17	1.78	4.23	0.98	4.06	0.65	0.80	0.93	0.89	1.59	2.75	2.50	25.33
1948	11.14	6.34	2.43	4.15	2.50	0.65	1.56	2.02	1.68	0.37	3.50	2.05	38.39
1949	5.55	4.32	0.75	1.70	0.30	1.60	1.18	0.34	0.35	0.20	1.85	1.00	19.14
1950	8.16	3.15	1.72	6.10	0.67	0.35	0.94	3.34	0.73	0.74	11.27	6.30	43.47
1951	0.82	3.76	15.20	0.13	0.42	0.12	0.44	1.18	1.40	2.68	0.50	6.61	33.26
1952	5.22	1.85	0.90	0.20	1.06	0.53	2.56	0.54	0.00	6.20	1.84	3.40	24.80
1953	1.23	1.40	1.26	1.69	1.47	0.22	0.18	0.13	0.13	0.32	1.11	4.15	13.29
1954	0.98	3.27	6.36	2.70	3.33	0.81	4.71	1.11	0.31	0.83	2.72	7.34	34.47
1955	4.10	9.53	5.62	0.86	0.75	0.72	0.78	1.68	0.69	0.67	3.10	7.87	36.37
1956	4.62	3.20	2.12	3.45	1.09	1.19	1.41	1.76	0.56	0.72	6.84	1.82	28.78
1957	4.09	0.90	0.64	3.03	0.40	0.30	0.87	3.33	0.42	0.61	8.83	4.95	28.37
1958	1.58	5.76	9.62	1.91	1.85	1.82	5.69	1.02	1.32	4.35	1.56	7.97	44.45
1959	7.17	3.24	0.89	3.67	2.48	0.51	0.39	1.78	0.53	0.72	3.39	2.16	26.93
Mean	4.07	3.67	4.70	3.60	2.18	1.05	1.51	1.50	0.96	2.56	3.33	4.55	33.86

STATION NO. 563 - KALAUPAPA

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1933	--	7.88	15.47	1.46	0.98	0.55	1.03	1.56	0.62	1.14	2.39	10.64	--
1934	2.39	6.05	4.30	15.11	6.49	3.81	1.42	1.24	1.80	4.43	9.27	3.79	60.10
1935	6.62	4.84	9.26	2.52	2.06	5.27	1.27	0.74	0.94	2.41	7.00	1.76	44.69
1936	5.25	2.83	6.86	9.91	8.42	2.10	3.28	4.07	3.08	6.50	6.67	8.78	67.75
1937	8.15	14.00	11.37	3.68	5.08	1.47	3.49	4.39	2.67	3.52	5.01	11.82	74.65
1938	16.53	4.24	6.51	17.58	10.65	3.57	5.39	5.57	0.61	3.71	1.61	8.03	84.00
1939	6.32	2.99	5.47	13.04	3.43	1.82	1.38	1.76	5.37	10.64	11.09	4.73	61.04
1940	8.21	6.18	7.52	2.94	5.89	0.94	1.21	4.08	2.67	3.77	6.78	5.81	56.00
1941	1.95	2.27	3.09	2.34	3.45	2.74	2.21	2.46	2.06	9.29	0.55	1.41	33.82
1942	0.63	2.64	11.26	5.39	0.99	0.99	1.65	1.59	0.52	15.73	3.37	6.82	51.88
1943	7.39	2.36	5.86	3.08	2.82	0.57	0.94	1.07	0.59	0.75	0.85	3.43	29.71
1944	0.70	4.22	9.44	2.96	0.70	2.01	0.64	0.43	0.41	3.45	2.22	2.57	29.75
1945	0.38	0.72	1.70	13.82	0.60	0.38	1.55	1.24	0.31	0.75	1.07	3.25	25.77
1946	7.42	0.36	1.88	1.38	1.71	1.01	5.09	1.37	1.32	4.95	3.52	8.39	38.40
1947	2.75	2.15	8.99	1.90	7.18	1.52	2.18	2.51	2.77	3.51	6.60	4.20	46.26
1948	13.74	6.57	5.05	9.91	2.68	0.65	2.73	1.46	3.99	2.95	5.24	7.77	62.74
1949	11.59	4.16	2.37	3.07	0.60	3.91	2.38	0.94	0.71	0.62	2.31	1.40	34.06
1950	9.70	4.46	3.91	10.19	1.54	0.53	1.77	3.33	1.51	1.04	20.44	10.66	69.08
1951	1.86	2.80	14.20	0.54	0.95	1.15	0.90	2.01	*	3.96[V]	0.96	9.10	38.43
1952	6.04	2.51	2.42	1.99	0.78	0.89	2.73	1.41	0.70	6.14	1.06	0.50	31.86
1953	1.48	2.81	1.73	2.57	2.59	0.49	0.62	0.47	0.14	0.33	1.22	3.00	17.45
1954	0.85	2.10	2.91	2.86	3.79	--	4.40	0.75	0.88	1.70	4.40	8.05	--
1955	3.65	8.40	6.15	0.70	0.60	0.50	0.90	3.40	0.75	0.25	2.35	7.60	35.25
1956	3.60	3.36	4.58	1.98	2.15	1.58	1.70	2.27	0.36	1.49	4.19	4.18	31.44
1957	4.81	2.90	0.93	3.72	0.87	0.68	1.79	2.77	0.65	1.05	9.01	5.53	34.73
1958	1.20	4.64	8.68	1.53	2.74	1.58	5.82	2.47	1.42	--	--	--	--
1959	7.55	4.34	0.71	2.76	--	--	--	--	--	--	--	--	--
Mean	5.41	4.18	6.02	5.14	3.07	1.63	2.25	2.13	1.47	3.76	4.49	5.73	46.04

STATION NO. 563.1 - KALAWAO

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1905	2.06	0.07	8.99	7.58	3.96	3.17	5.40	10.69	5.20	3.87	6.30	7.17	64.46
1906	7.04	1.91	8.69	5.85	4.85	2.41	2.53	4.28	4.08	3.65	7.03	--	--
1907	21.31	8.73	5.19	3.63	11.12	2.92	2.63	7.65	5.88	4.20	3.81	2.62	79.69
1908	0.84	3.51	6.96	2.23	1.53	2.22	2.36	2.88	2.64	0.72	3.12	4.55	33.56
1909	0.54	6.33	9.38	7.63	7.36	2.32	3.51	2.11	1.79	5.25	3.39	7.63	57.24
1910	8.17	5.65	3.04	5.01	3.94	7.29	2.04	4.98	2.22	3.32	5.14	8.40	59.20
1911	8.43	13.46	5.17	3.20	3.97	3.43	4.90	3.45	6.19	4.21	3.14	2.04	61.59
1912	1.35	7.36	4.83	5.96	1.48	--	3.99	0.80	0.85	3.23	5.11	4.69	--
1913	2.73	5.80	3.68	7.02	5.01	2.89	1.47	2.45	1.38	2.03	11.76	9.75	55.97
1914	11.29	1.93	7.10	14.70	14.82	7.68	7.12	9.69	11.90	2.22	5.24	8.78	102.47
1915	2.85	--	--	9.06	3.35	5.06	3.68	1.74	3.07	5.55	9.55	9.33	--
1916	37.67	3.75	7.91	8.33	15.35	4.97	3.25	5.61	2.64	2.72	5.85	13.68	111.73
1917	12.81	4.76	5.92	6.64	5.07	0.77	1.42	1.29	0.82	1.87	4.18	6.62	52.17
1918	6.57	9.00	13.24	20.98	3.23	6.58	5.35	8.31	--	--	--	5.26	--
1919	2.09	2.83	6.99	8.28	4.67	0.66	5.90	5.46	2.25	4.18	1.24	4.22	48.77

Table 4. MONTHLY AND ANNUAL RAINFALL AT GAGES WITH RECORDS OF 15 OR MORE CONTINUOUS YEARS (continu

STATION NO. 563.1 - KALAWAO (Continued)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANN
1920	5.34	0.72	8.10	3.25	1.29	1.56	2.85	2.85	0.97	3.10	5.12	8.62	43.
1921	--	2.44	3.46	5.17	3.10	0.49	2.88	1.67	1.54	12.03	11.99	20.97	-
1922	9.07	7.10	7.03	2.85	4.50	0.28	0.47	2.13	2.62	5.56	5.73	0.33	47.
1923	25.32	14.94	9.96	10.70	0.38	0.52	1.57	2.66	3.10	5.78	3.38	14.77	93.
1924	1.87	6.26	3.31	11.58	5.15	--	--	2.43	2.22	3.12	6.29	7.73	-
1925	3.17	5.13	5.20	3.70	2.61	3.05	1.91	1.98	3.54	2.02	5.18	7.43	44.
1926	6.03	2.04	2.70	2.74	0.28	5.52	2.50	2.33	1.59	5.58	1.71	2.81	35.
1927	9.85	2.92	5.27	26.81	3.96	1.63	2.66	5.52	4.29	1.33	23.91	14.24	102.
1928	5.19	3.66	5.40	6.29	5.52	2.29	5.64	2.32	2.21	1.62	4.22	2.54	46.
1929	15.20	8.46	4.59	4.85	2.81	1.30	2.56	2.05	0.90	2.48	17.42	14.82	77.
1930	5.08	8.94	--	8.02	1.34	4.89	2.03	4.06	1.08	3.53	11.09	--	-
1931	1.16	1.61	3.58	7.33	6.17	1.48	4.09	5.73	10.11	5.91	4.77	7.09	59
1932	4.10	28.34	3.01	11.65	5.44	3.75	4.04	2.38	2.05	0.67	1.60	--	-
						(Discontinued)							
Mean	8.04	6.21	6.10	7.89	4.72	3.04	3.29	3.91	3.23	3.69	7.43	7.84	63.

[e] Amount is wholly or partially estimated.
* Amount included in following measurement, time distribution unknown.
[v] Includes total for previous months.

Table 5. INDEX TO STREAM-GAGING STATIONS AND AVERAGE, MAXIMUM, AND MINIMUM ANNUAL STREAMFLOW, FOR PERIOD OF RECORD

Index map No.	Stream	Latitude Longitude ° ' "	Drainage area in sq. mi.	Approx. elev. in feet	Period of record	Years of record	Average for period MGD	Average for period MGY	Maximum year	Maximum MGY	Minimum year	Minimum MGY	Remarks
I-3	KEOLEWA near Kalae	21 10 30[a] 156 58 45	0.12	1,950[a]	1940-1944	3	0.33	119	1942	157	1943	76	Discontinued
I-7	WAIHANAU near Kalaupapa	21 09 13 156 57 28	1.1	2,450	1930-1932	1	1.95	712					Discontinued
I-15	WAIKOLU at 253'	21 09 45[r] 156 55 54	3.68[r]	253[b]	1919-1929 1937-1947 1949-	31	12.2	4,470	1938	7,780	1953	2,410	Diversion to Kalaupapa Water System
I-26	WAIKOLU at 650'	21 09 03 156 55 33		650	1920-1923	2	9.68	3,535					Discontinued
I-28	WAIKOLU at 900'	21 08 43 156 55 17	1.99	900[a]	1956-	3	7.62	2,780	1958	3,300	1957	2,240	
I-41	LANIPUNI near Pelekunu	21 08 38[r] 156 52 26[r]	1.09[r]	418[b]	1919-1929 1937-1947 1948-1957	27	9.20	3,358	1923	5,780	1953	1,870	Discontinued
I-47	PELEKUNU near Pelekunu	21 08 12[r] 156 52 47[r]	2.62[r]	546[b]	1919-1928 1937-1947 1948-1957	26	10.8	3,930	1950	7,360	1953	2,040	Discontinued
I-55	PULENA near Wailau	21 07 34 156 49 50	4.38[r]	546[b]	1919-1928 1937-1957	28	22.1	8,071	1948	12,330	1926	3,750	Discontinued
I-59	WAIAKEAKUA near Wailau	21 07 26[r] 156 49 43[r]	1.41[r]	698[b]	1919-1929 1937-1957	28	7.48	2,730	1927	3,740	1926	1,760	Discontinued
I-63	PAPALAUA near Wailau	21 10 13 156 47 57	2.0	25	1920-1928	8	13.1	4,770	1927	7,110	1926	3,390	Discontinued
I-73	HALAWA near Halawa	21 09 30 156 45 53	4.62[r]	200[a]	1917-1932 1937-	35	19.3	7,040	1918 1938	9,400	1920	4,630	2" pipe diversion above station to Halawa Village
II-79	PUNAULA near Pukoo	21 05 50 156 48 48	0.24[r]	1,200[a]	1947-	12	0.81	297	1955	372	1953	174	
II-81	KAWELA, Rt. Br. of E. Fork, near Kamalo	21 06 46[r] 156 54 23[r]	0.45[r]	3,625[b]	1946-	13	1.56	571	1948	950	1953	284	Molokai Ranch diverts low flow
III-83	KAUNAKAKAI at Kaunakakai	21 06 21[r] 157 00 34[r]	6.57[r]	240[a]	1949-	3	1.91	697	1950	1,310	1952	156	
III-84	MAKAELEELE near Kalae	21 09 05 156 57 55	0.04	2,450[a]	1940-1945	4	0.43	157	1942	214	1944	89	.014 MGD diverted; discontinued
III-86	KAPUNA near Kalae	21 09 05 156 59 00	0.45	1,900[a]	1940-1949	8	0.033	12.1	1942	35	1945	5.2	Discontinued
III-92	WAIALALA SPRINGS near Kalae	21 10 20 157 00 05	0.02	1,600[a]	1940-1960	19	0.016	5.74	1942	15.7	1946	2.5	Discontinued

[a] Topographic map
[b] Hand level
[r] Revised, 1958

Source of records - United States Geological Survey
Type of records - Daily

Table 6. TOTAL ANNUAL STREAMFLOW AT STREAM-GAGING STATIONS FOR WHICH RECORDS ARE AVAILABLE

Year	I-3 Keolewa	I-7 Waiha-nau	I-15 Waikolu at 253'	I-26 Waikolu at 650'	I-28 Waikolu at 900'	I-41 Lani-puni	I-47 Pele kunu	I-55 Pulena	I-59 Waiakea-kua	I-63 Papa-laua	I-73 Halawa	II-79 Puna-ula	II-81 Kawela	III-83 Kauna-kakai	III-84 Makae-leele	III-86 Kapuna	III-92 Waia-lala
1918	--	--	--	--	--	--	--	--	--	--	9,400	--	--	--	--	--	--
1919	--	--	--	--	--	--	--	--	--	--	4,660	--	--	--	--	--	--
1920	--	--	3,200	--	--	2,560	3,110	5,270	2,020	--	4,630	--	--	--	--	--	--
1921	--	--	4,830	3,910	--	5,430	5,530	9,730	3,460	5,050	8,580	--	--	--	--	--	--
1922	--	--	4,960	3,160	--	3,640	3,500	7,760	2,810	3,770	6,950	--	--	--	--	--	--
1923	--	--	5,510	--	--	5,780	5,300	9,820	3,180	5,920	7,960	--	--	--	--	--	--
1924	--	--	4,100	--	--	2,900	3,710	7,090	2,440	3,800	5,260	--	--	--	--	--	--
1925	--	--	3,310	--	--	3,210	3,480	5,730	2,600	3,830	5,980	--	--	--	--	--	--
1926	--	--	2,510	--	--	2,180	2,250	3,750	1,760	3,390	4,660	--	--	--	--	--	--
1927	--	--	4,930	--	--	4,700	4,990	8,320	3,740	7,110	8,600	--	--	--	--	--	--
1928	--	--	3,440	--	--	3,330	3,300	6,860	2,820	5,270	6,650	--	--	--	--	--	--
1929	--	--	4,480	--	--	--	--	--	--	--	6,260	--	--	--	--	--	--
1930	--	--	--	--	--	--	--	--	--	--	7,830	--	--	--	--	--	--
1931	--	712	--	--	--	--	--	--	--	--	6,300	--	--	--	--	--	--
1932	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1933	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1934	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1935	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1936	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1937	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1938	--	--	7,780	--	--	4,360	5,290	9,950	3,320	--	9,400	--	--	--	--	--	--
1939	--	--	5,370	--	--	3,340	4,600	10,930	3,530	--	9,030	--	--	--	--	--	--
1940	--	--	5,140	--	--	3,030	4,250	8,820	2,690	--	7,340	--	--	--	--	--	--
1941	123	--	4,930	--	--	3,270	3,000	6,710	2,590	--	8,780	--	--	--	197	10.8	10.8
1942	157	--	6,900	--	--	4,460	3,580	8,740	2,480	--	9,270	--	--	--	214	35.0	15.7
1943	76	--	4,010	--	--	2,550	2,940	8,480	2,450	--	7,970	--	--	--	128	11.5	9.9
1944	--	--	3,220	--	--	2,710	3,080	6,840	2,370	--	6,090	--	--	--	89	6.9	7.3
1945	--	--	2,470	--	--	2,470	2,530	7,310	2,120	--	4,820	--	--	--	--	5.2	3.5
1946	--	--	3,770	--	--	3,500	4,460	10,240	2,750	--	7,290	--	--	--	--	9.3	[illegible]
1947	--	--	4,270	--	--	3,450	--	7,340	2,440	--	7,390	--	558	--	--	5.4	4.7
1948	--	--	--	--	--	--	--	12,330	3,550	--	9,230	365	950	--	--	12.7	6.[illegible]
1949	--	--	3,130	--	--	2,750	3,460	6,120	1,800	--	5,310	178	396	--	--	--	3.6
1950	--	--	5,520	--	--	4,520	7,360	11,390	3,120	--	7,140	353	726	1,310	--	--	5.4
1951	--	--	4,800	--	--	2,960	4,560	8,650	2,580	--	6,060	321	475	626	--	--	6.0
1952	--	--	3,380	--	--	2,650	3,420	7,310	2,980	--	6,980	330	408	156	--	--	4.4
1953	--	--	2,410	--	--	1,870	2,040	4,320	1,970	--	4,740	174	284	--	--	--	3.9
1954	--	--	4,270	--	--	2,850	4,120	8,190	2,810	--	6,740	293	593	--	--	--	3.4
1955	--	--	6,060	--	--	3,490	4,770	10,780	3,230	--	7,760	372	687	--	--	--	5.2
1956	--	--	3,970	--	--	2,720	3,540	7,220	2,770	--	6,980	316	491	--	--	--	3.3
1957	--	--	4,100	--	2,240	--	--	--	--	--	6,820	290	546	--	--	--	3.8
1958	--	--	6,520	--	3,300	--	--	--	--	--	7,430	326	808	--	--	--	5.22
1959	--	--	5,270	--	2,800	--	--	--	--	--	--	247	498	--	--	--	4.06

Table 7. MONTHLY AND ANNUAL STREAMFLOW AT STATIONS WITH RECORDS OF 10 YEARS OR MORE

I-15 WAIKOLU STREAM AT 253'

Year		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1919	Max.	--	--	--	--	--	--	11.9	--	--	--	--	--	--
	Min.	--	--	--	--	--	--	5.4	--	--	--	--	--	--
	Mean	--	--	--	--	--	--	7.24	8.00	6.00	6.50	5.50	6.00	--
	Total	--	--	--	--	--	--	224	248	180	202	165	186	--
1920	Max.	--	--	64	73	5.7	8.3	9.8	17.5	9.8	34	--	149	149
	Min.	--	--	4.1	5.1	4.5	4.1	4.8	5.1	5.1	5.1	--	3.5	--
	Mean	8.00	6.50	14.1	9.09	5.26	5.32	6.02	7.25	5.73	7.76	13.6	16.3	8.78
	Total	248	188	438	273	163	160	187	225	172	240	409	504	3,200
1921	Max.	131	14.1	32	83	7.9	10.3	24	9.8	10.9	39	199	280	280
	Min.	3.5	6.1	5.7	6.1	5.4	5.1	5.1	--	3.1	3.3	4.1	6.0	3.1
	Mean	25.4	7.96	9.44	13.2	6.50	5.59	8.50	5.98	4.66	7.34	25.3	38.2	13.2
	Total	787	223	292	397	202	168	264	185	140	228	760	1,180	4,830
1922	Max.	--	91	--	25	--	--	10.2	21	--	38	23	8.2	--
	Min.	--	12.8	--	13.2	--	--	9.0	7.9	7.1	7.1	5.6	5.0	--
	Mean	27.3	21.6	20.8	16.4	12.0	10.2	9.48	10.3	9.17	10.3	10.5	5.60	13.6
	Total	845	603	646	493	374	304	294	318	275	318	316	174	4,960
1923	Max.	244	73	123	114	16.2	13.1	19.6	23	35	35	76	66	244
	Min.	5.6	10.2	7.3	11.0	9.3	8.6	8.2	7.4	6.3	6.3	5.9	5.6	5.6
	Mean	34.1	16.6	16.6	22.2	11.8	10.0	9.82	9.99	10.2	11.7	10.8	19.1	15.1
	Total	1,000	465	515	667	365	301	304	310	306	362	323	591	5,510
1924	Max.	11.6	258	42	45	96	14.8	41	44	41	40	150	66	258
	Min.	--	6.3	6.3	6.3	6.7	7.0	--	5.6	4.7	4.7	5.0	5.3	--
	Mean	7.57	22.9	9.37	12.1	12.9	8.28	8.26	7.91	6.86	9.31	16.3	13.3	11.2
	Total	235	663	290	364	400	248	256	245	206	289	489	413	4,100
1925	Max.	27	49	51	52	23	31	14.3	24	10.1	55	45	61	61
	Min.	5.0	4.4	4.4	6.2	6.2	6.5	5.6	5.3	4.7	3.4	3.4	3.8	3.4
	Mean	7.71	9.45	10.8	13.9	8.72	11.6	6.64	7.96	5.66	6.93	8.76	11.0	9.07
	Total	239	265	334	418	270	347	206	247	170	215	263	340	3,310
1926	Max.	104	53	22	26	6.8	62	13.3	44	7.8	29	236	22	236
	Min.	4.1	4.4	3.8	4.4	4.1	3.4	3.6	4.1	3.4	4.4	3.6	3.4	3.4
	Mean	9.85	7.99	5.28	7.07	4.40	7.10	4.43	7.07	4.32	7.34	12.7	5.10	6.87
	Total	306	224	164	212	136	213	137	219	130	228	382	158	2,510
1927	Max.	244	24	21	189	--	--	28	11.8	41	7.2	89	79	244
	Min.	3.6	5.6	5.6	5.9	--	--	--	6.2	4.7	4.1	4.1	6.5	3.6
	Mean	21.3	9.76	9.04	34.4	13.1	9.33	10.4	7.98	8.34	4.75	16.6	17.3	13.5
	Total	659	273	280	1,030	406	280	321	247	250	147	497	537	4,930
1928	Max.	42	33	36	28	39	23	42	14.3	17.0	8.2	48	99	99
	Min.	6.2	6.5	5.9	6.5	5.9	5.6	--	5.9	5.3	4.6	5.0	--	4.6
	Mean	11.9	9.84	9.76	8.76	11.1	7.14	10.1	6.90	6.90	5.21	10.9	14.1	9.40
	Total	368	285	303	263	343	214	314	214	207	162	328	438	3,440

Table 7. MONTHLY AND ANNUAL STREAMFLOW AT STATIONS WITH RECORDS OF 10 YEARS OR MORE *(continued)*

I-15 WAIKOLU STREAM AT 253' (Continued)

Year		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1929	Max.	220	--	63	25	--	--	--	--	--	13.4	121	--	--
	Min.	--	6.2	5.7	5.5	--	--	--	--	--	4.1	3.9	5.5	--
	Mean	23.6	17.0	12.7	7.73	5.94	6.42	6.11	6.68	4.55	4.90	24.3	27.7	12.3
	Total	731	477	394	232	184	193	190	207	136	152	728	860	4,480
1930	Max.	136	--	--	--	21	37	22	37	60	--	142	--	--
	Min.	8.0	6.1	--	--	8.7	--	6.2	6.0	5.5	4.8	5.3	--	--
	Mean	18.3	11.9	24.7	37.4	13.5	16.0	10.2	9.94	11.0	7.08	15.3	--	--
	Total	567	332	767	1,120	418	481	317	308	330	219	275	--	--
1931	Max.	--	--	--	--	--	--	--	26	71	34	42	99	--
	Min.	--	--	--	--	--	--	--	6.4	6.8	6.8	6.8	7.0	--
	Mean	--	--	--	--	--	--	--	10.7	18.6	10.7	12.7	19.4	--
	Total	--	--	--	--	--	--	--	192	558	333	380	602	--
1932	Max.	28	175	140	--	--	23	31	--	--	--	--	--	--
	Min.	7.5	8.4	9.0	9.0	--	9.8	9.5	--	--	--	--	--	--
	Mean	10.9	44.0	17.4	33.5	19.9	11.3	13.4	--	--	--	--	--	--
	Total	337	1,280	541	1,000	617	339	268	--	--	--	--	--	--
1937	Max.	--	--	--	--	--	--	--	--	9.0	23	46	275	--
	Min.	--	--	--	--	--	--	--	--	8.6	7.9	8.5	8.1	--
	Mean	--	--	--	--	--	--	--	--	8.71	10.8	14.5	36.7	--
	Total	--	--	--	--	--	--	--	--	95.8	334	435	1,139	--
1938	Max.	102	50	104	474	181	30	25	235	10.6	59	32	273	474
	Min.	9.1	9.1	9.8	9.6	11.5	14.3	12.0	9.3	8.7	8.2	7.6	7.2	7.2
	Mean	18.7	15.0	25.2	53.0	32.2	17.4	14.8	22.3	9.09	11.1	10.3	23.0	21.0
	Total	579	421	781	1,589	997	522	459	690	273	345	308	712	7,780
1939	Max.	51	40	31	131	37.5	22.5	24.5	15.0	65	201	130	62	201
	Min.	8.7	8.0	7.6	7.2	8.7	8.6	7.8	7.2	7.5	7.5	7.5	8.3	7.2
	Mean	17.3	10.7	11.0	25.4	15.6	11.3	9.94	9.05	11.6	17.3	19.4	17.8	14.7
	Total	538	300	341	762	484	340	308	280	347	536	583	551	5,370
1940	Max.	139	41	95	25	75	10.0	21	83	36.5	65	144	85	144
	Min.	8.6	8.3	8.0	7.8	8.0	6.6	6.1	6.3	6.9	7.4	7.2	8.0	6.1
	Mean	23.3	11.3	15.2	9.87	16.8	7.59	7.51	16.2	10.8	13.5	14.6	21.3	14.0
	Total	721	328	472	296	522	228	233	501	324	417	437	660	5,140
1941	Max.	179	61	102	27.5	50	46	26.5	15.8	31	128	29	51	179
	Min.	8.2	7.7	7.7	8.2	8.5	8.5	8.2	7.2	7.2	7.2	7.2	8.0	7.2
	Mean	16.6	11.7	18.9	10.6	14.6	12.7	11.1	9.24	10.1	19.6	9.91	16.6	13.5
	Total	516	328	585	317	451	382	344	286	302	606	297	516	4,930
1942	Max.	33.5	87	538	125	58	16.9	28	15.4	16.0	87	34	75	538
	Min.	6.9	6.9	8.8	15.6	13.5	11.2	10.2	8.2	7.7	7.2	7.2	7.7	6.9
	Mean	8.82	18.6	74.8	25.5	17.7	12.7	13.4	9.84	8.63	12.9	9.83	13.5	18.9
	Total	273	521	2,320	766	547	380	417	305	259	400	295	418	6,900

1943	Max.	108	78	117	61	108	9.2	46	45	6.7	8.4	10.8	78	117
	Min.	6.9	6.3	6.9	7.7	7.7	7.2	6.6	6.1	5.1	4.7	4.7	4.7	4.7
	Mean	15.0	13.4	17.5	15.0	16.0	7.74	10.7	9.24	5.65	5.17	5.09	11.3	11.0
	Total	465	376	542	451	497	232	332	286	170	160	153	350	4,010
1944	Max.	10.4	31	90	124	12.6	26	20	7.7	40	55	100	56	124
	Min.	4.5	4.3	5.6	5.8	5.1	5.1	4.7	4.0	4.5	4.3	4.5	4.7	4.0
	Mean	5.71	8.08	17.1	13.3	6.07	7.36	6.36	4.81	7.27	8.31	10.2	11.0	8.79
	Total	177	234	531	399	188	221	197	149	218	258	304	342	3,220
1945	Max.	12.2	12.5	37.5	116	10.6	7.4	6.4	15.1	6.1	23	36	40	116
	Min.	3.6	3.6	4.0	3.8	4.3	4.0	3.8	3.8	3.5	3.3	3.3	3.3	3.3
	Mean	44.5	5.04	10.2	19.4	5.40	4.61	4.25	5.61	4.08	4.89	5.59	7.79	6.77
	Total	138	141	317	582	168	138	132	174	122	152	168	242	2,470
1946	Max.	189	72	41	21	5.8	7.2	71	8.7	6.6	53	61	146	189
	Min.	3.5	4.0	3.8	4.0	3.8	3.8	4.4	4.2	4.1	3.75	3.9	5.5	3.5
	Mean	24.6	9.43	11.0	6.71	4.32	4.50	10.5	4.79	4.58	7.46	10.7	24.7	10.3
	Total	764	264	341	201	134	135	326	149	137	231	322	765	3,770
1947	Max.	90	29	61	58	126	22	18.1	29	30	81	26	81	126
	Min.	6.4	5.5	5.0	6.8	8.6	8.4	7.4	6.8	6.1	5.5	5.5	5.5	5.0
	Mean	12.3	8.16	14.9	13.4	23.2	10.2	8.72	8.64	8.78	9.49	7.99	14.0	11.7
	Total	382	228	460	401	720	307	270	268	263	294	240	434	4,270
1948	Max.	197	--	--	--	--	--	--	14.3	33	15.0	28	47	--
	Min.	6.1	--	--	--	--	--	--	6.2	5.8	6.2	6.0	7.0	--
	Mean	26.7	--	--	--	--	--	--	7.51	7.84	8.97	9.83	16.2	--
	Total	667	--	--	--	--	--	--	233	235	278	295	503	--
1949	Max.	149	97	71	56	10.7	10.2	24.5	11.2	5.2	5.6	64	13.8	149
	Min.	6.8	5.6	5.6	5.6	5.4	5.1	5.2	5.2	5.1	4.5	4.7	5.1	4.5
	Mean	17.4	10.0	9.12	11.1	6.15	5.70	8.72	6.69	5.16	4.96	10.9	7.07	8.58
	Total	538	281	283	334	190	171	270	207	155	154	328	219	3,130
1950	Max.	134	43	112	69	25	11.4	16.9	201	6.8	13.1	176	97	201
	Min.	5.2	5.2	5.2	6.2	6.5	5.8	5.6	5.4	5.1	4.9	4.9	11.5	4.9
	Mean	16.7	10.1	16.4	18.7	9.64	6.42	7.35	16.6	5.31	5.81	37.5	30.9	15.1
	Total	516	283	507	560	299	193	227.9	513.8	159.3	180.2	1,124.4	957.3	5,520
1951	Max.	49	62	200	14	13.1	10.7	11.9	28	9.4	60	25	101	200
	Min.	10.7	10.0	10	10	7.8	7.5	7.2	6.6	6.1	5.4	5.5	6.1	5.4
	Mean	16.2	16.4	38.6	11.4	9.37	8.13	7.98	8.47	6.52	10.6	8.43	15.3	13.1
	Total	502.0	458.8	1,196.0	343	290.6	244.0	247.4	262.6	195.5	329.7	253.0	474.8	4,800
1952	Max.	187	144	22	11.9	40	18.9	59	9.1	8.0	102	27	40	187
	Min.	6.1	5.6	5.8	4.7	4.7	4.5	4.7	4.5	3.9	3.9	5.4	6.1	3.9
	Mean	16.4	11.7	9.74	6.45	7.21	7.60	7.65	5.26	4.45	13.6	10.6	10.3	9.25
	Total	508.5	338.0	302	193.5	223.4	228.0	237.3	163.0	133.4	420.3	319	318.9	3,380
1953	Max.	14.6	19.3	54	21	127	13.9	11.5	14.8	4.1	30.5	41	55	127
	Min.	5.4	4.5	4.3	4.3	4.5	4.5	4.3	4.1	3.5	3.35	3.5	4.1	3.35
	Mean	6.04	5.78	7.22	5.31	13.9	8.62	5.31	5.29	3.85	4.58	6.46	8.58	6.60
	Total	187.1	161.8	223.8	159.2	431.7	198.5	164.7	164.1	115.4	142.05	193.7	266.0	2,410
1954	Max.	66	35.5	92	45	54	27	46	41	89	10.2	105	190	190
	Min.	3.9	3.7	4.5	4.3	5.2	5.8	6.5	6.5	5.2	4.8	4.5	6.5	3.7
	Mean	6.53	6.32	12.3	8.84	11.3	8.73	13.5	9.75	5.92	5.60	8.33	42.1	11.7
	Total	202.5	177.0	381.2	265.1	351.0	261.8	418.7	302.1	177.6	173.7	249.8	1,306.1	4,270
1955	Max.	152	282	121	29	19.6	22	37	39	15.4	18.6	133	298	298
	Min.	6.8	8.0	12.8	12.4	10.0	8.6	7.9	7.2	6.7	6.1	6.1	5.6	5.6
	Mean	17.1	47.1	24.0	15.3	12.3	10.2	11.6	11.7	7.59	7.49	13.6	23.8	16.6
	Total	530.0	1,317.5	743.6	459.0	379.9	305.4	360.3	364.1	227.7	232.2	407.2	738.2	6,060

Table 7. MONTHLY AND ANNUAL STREAMFLOW AT STATIONS WITH RECORDS OF 10 YEARS OR MORE *(continued)*

I-15 WAIKOLU STREAM AT 253' (Continued)

Year		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1956	Max	109	71	26.5	102	13.9	45	12.8	52	7.9	52	111	27.5	111
	Min.	5.8	6.7	6.4	6.7	7.2	7.6	6.4	8.4	5.8	5.8	5.8	5.6	5.6
	Mean	13.0	20.0	9.05	14.5	9.45	12.4	7.59	11.2	6.08	9.78	10.2	7.45	10.8
	Total	402.2	580.7	280.5	436.4	292.9	371.0	235.3	347.9	182.3	303.3	306.3	231.0	3,970
1957	Max.	49	55	32.5	132	24	7.3	10.5	86	10.9	8.3	73	107	132
	Min.	5.3	5.6	5.3	5.3	5.3	4.5	4.5	5.3	5.3	5.0	5.0	9.0	4.5
	Mean	10.2	12.8	8.11	15.1	7.21	4.88	5.71	15.7	5.89	5.46	16.6	27.3	11.2
	Total	314.9	359.8	251.3	453.6	223.6	146.4	177.1	488.1	176.7	169.3	497.2	844.9	4,100
1958	Max.	131	121	97	19.4	46	20	84	165	22	140	68	162	165
	Min.	7.2	7.9	8.2	7.6	7.9	8.2	8.2	10.4	9.0	8.6	9.6	10.0	7.2
	Mean	16.5	13.8	19.5	9.32	15.7	11.2	22.6	26.0	11.6	22.3	17.0	27.6	17.9
	Total	510.8	386.2	604.2	279.6	485.2	335.8	699.8	807.8	349.2	691.5	511.5	854.2	6,520
1959	Max.	206	84	29	132	32.5	15.0	17.2	34.6	9.40	40.8	32.1	32.1	206
	Min.	11.7	11.7	10.7	11.7	9.4	9.0	7.93	8.25	7.10	5.78	6.60	6.60	5.78
	Mean	29.1	20.4	13.2	25.9	14.1	9.76	9.27	12.2	7.85	7.41	10.8	13.7	14.4
	Total	900.9	570.3	409.3	777.7	436.3	292.7	287.52	378.73	235.61	229.72	323.60	424.85	5,270

I-41 LANIPUNI STREAM NEAR PELEKUNU

Year		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1919	Max.	--	--	--	--	--	--	--	--	--	--	--	85	--
	Min.	--	--	--	--	--	--	--	--	--	--	--	2.1	--
	Mean	--	--	--	--	--	--	--	--	--	--	--	7.92	--
	Total	--	--	--	--	--	--	--	--	--	--	--	246	--
1920	Max.	15.7	3.7	77	36	3.0	7.6	6.7	18.5	12.8	32	72	165	165
	Min.	3.0	2.4	2.2	2.8	2.1	2.2	2.0	2.6	2.6	2.7	3.8	4.3	2.0
	Mean	4.59	2.76	14.8	5.34	2.58	3.07	3.30	5.70	4.24	6.13	13.2	18.0	7.00
	Total	142	79.9	460	160	80.1	92.2	102	177	127	190	395	558	2,560
1921	Max.	157	10.4	32	96	10.3	12.2	54	22	17.1	43	248	225	248
	Min.	7.1	4.6	3.9	5.0	4.0	3.6	3.8	4.2	4.0	2.3	2.8	5.3	2.3
	Mean	41.0	6.21	7.12	17.0	5.94	4.49	12.4	6.87	6.21	6.66	3.21	31.7	14.9
	Total	1,270	174	221	509	184	135	386	213	186	206	962	981	5,430
1922	Max.	--	86	69	22	23	7.6	6.1	32	17.2	30	51	10.5	--
	Min.	2.8	9.1	7.9	6.9	5.0	3.6	3.3	3.2	3.3	3.5	5.0	2.6	2.6
	Mean	16.0	21.2	21.8	10.1	7.56	4.32	3.72	6.45	5.33	7.37	12.3	7.67	9.98
	Total	494	592	674	303	234	130	115	200	160	229	368	145	3,640

1923	Max.	330	--	--	--	--	9.2	24	24	32	--	--	--	330
	Min.	2.9	5.4	5.9	--	5.5	5.0	6.3	4.8	4.0	4.3	4.5	4.3	2.9
	Mean	30.2	15.2	18.8	39.8	6.62	6.27	8.97	8.19	7.50	10.5	12.5	25.2	15.8
	Total	937	426	583	1,200	205	188	278	254	225	326	375	782	5,780
1924	Max.	--	162	38	28	70	11.4	--	--	50	43	--	44	--
	Min.	4.1	3.9	3.6	3.8	3.8	3.1	--	--	2.7	3.1	--	--	--
	Mean	5.90	16.1	6.65	8.9	8.73	3.88	6.90	5.41	5.61	8.10	12.6	7.00	7.93
	Total	183	466	206	267	270	116	214	168	168	251	378	217	2,900
1925	Max.	17.9	29	38	44	16.5	31	15.1	33	11.9	14.4	--	--	--
	Min.	3.3	3.1	3.0	4.8	4.2	4.8	5.2	5.0	3.6	3.3	--	--	--
	Mean	5.96	6.71	8.40	12.5	6.61	11.7	6.56	9.57	5.26	4.72	13.0	14.5	8.79
	Total	185	188	260	375	205	351	204	297	158	146	390	450	3,210
1926	Max.	77	46	22	13.6	6.6	28	10.4	55	9.6	24	220	13.1	220
	Min.	3.1	3.2	3.0	3.0	2.8	2.3	2.3	3.3	3.3	3.3	3.0	3.2	2.3
	Mean	7.85	6.84	4.20	5.93	3.71	5.02	3.45	7.88	4.75	5.94	11.8	4.35	5.96
	Total	243	192	130	178	115	150	107	244	143	184	355	135	2,180
1927	Max.	231	17.5	--	209	145	29	37	14.7	52	9.3	117	77	231
	Min.	3.6	--	--	3.7	--	4.5	4.2	4.7	4.2	4.0	3.9	5.2	--
	Mean	19.0	5.74	7.76	34.3	14.8	7.54	9.37	7.92	9.07	5.28	18.2	15.5	12.9
	Total	588	161	240	1,030	459	226	290	245	272	164	546	481	4,700
1928	Max.	52	24	16.1	40	51	26	63	13.5	34	12.4	47	131	131
	Min.	4.8	4.6	3.4	3.8	5.2	4.1	4.2	3.6	3.7	3.4	3.0	2.7	2.7
	Mean	11.1	7.10	5.72	8.51	13.6	7.50	12.3	6.28	6.35	4.45	8.25	1.77	9.09
	Total	343	206	177	255	422	225	381	195	190	138	248	548	3,330
1929	Max.	227	79	61	27	10.3	16.5	23	23	4.8	--	--	--	--
	Min.	5.2	5.1	4.6	4.3	4.2	4.3	3.9	4.6	4.3	--	--	--	--
	Mean	21.2	14.7	12.1	6.95	5.30	5.66	5.83	6.50	4.52	--	--	--	--
	Total	659	413	374	208	164	170	181	202	226	--	--	--	--
1937	Max.	--	--	--	--	--	--	--	--	5.2	21.5	32	220	--
	Min.	--	--	--	--	--	--	--	--	4.0	4.0	4.3	4.0	--
	Mean	--	--	--	--	--	--	--	--	4.45	6.53	11.0	24.2	--
	Total	--	--	--	--	--	--	--	--	66.8	202	330	749	--
1938	Max.	39	14	70	323	132	22.5	17.1	179	6.6	107	16.0	112	323
	Min.	4.0	3.7	4.1	4.3	4.8	4.3	3.7	3.0	1.7	1.7	3.0	3.25	1.7
	Mean	8.12	5.98	16.7	35.4	19.2	7.80	6.00	15.1	2.68	7.12	5.50	13.3	11.9
	Total	252	167	516	1,060	596	234	186	467	80.3	221	165	411	4,360
1939	Max.	28	22	18.2	57	29	17.6	21.5	12.1	59	22.5	72	23	72
	Min.	5.0	4.9	3.5	3.4	3.85	4.9	4.2	3.5	3.5	3.25	4.9	4.0	3.25
	Mean	13.0	7.74	6.89	13.1	10.5	7.81	6.89	5.94	8.20	7.33	14.8	7.64	9.14
	Total	403	217	213	393	324	234	214	184	246	227	444	237	3,340
1940	Max.	35	60	16.5	10.5	29.5	7.9	17.1	70	38	29.5	144	64	144
	Min.	3.5	2.9	2.8	2.65	3.4	2.65	2.3	4.9	3.65	3.4	3.85	4.0	2.3
	Mean	6.12	6.14	5.00	3.85	8.85	3.69	4.23	15.6	9.13	8.93	11.7	15.8	8.28
	Total	190	178	155	116	274	111	131	484	274	277	351	489	3,030
1941	Max.	317	39.5	105	17.6	30.5	51	18.4	17.9	41	92	11.4	21	317
	Min.	4.0	3.15	3.85	3.25	3.15	3.0	3.5	3.25	3.65	4.0	3.4	3.65	3.0
	Mean	17.5	6.57	14.1	5.45	7.52	8.53	6.95	6.21	7.56	13.8	4.82	7.90	8.95
	Total	541	184	436	164	233	256	215	193	227	429	145	245	3,270
1942	Max.	17.5	50	450	119	45	10.2	35.5	17.0	16.2	36	16.2	25	450
	Min.	2.65	2.3	6.4	6.1	4.9	4.2	4.4	4.7	3.85	3.25	3.25	4.0	2.3
	Mean	4.08	9.76	61.0	15.7	8.47	5.54	8.56	6.46	5.82	6.88	4.74	8.98	12.2
	Total	127	273	1,890	472	262	166	266	200	175	213	142	278	4,460

Table 7. MONTHLY AND ANNUAL STREAMFLOW AT STATIONS WITH RECORDS OF 10 YEARS OR MORE *(continued)*

I-41 LANIPUNI STREAM NEAR PELEKUNU (Continued)

Year		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1943	Max.	60	41	35	20	21	9.7	37	31	8.2	5.2	10.4	35	60
	Min.	3.4	3.4	3.7	4.0	3.8	3.85	3.85	3.5	2.9	2.65	2.4	2.4	2.4
	Mean	9.72	7.62	9.09	8.46	9.14	5.35	8.75	7.34	4.02	3.25	3.33	7.53	6.98
	Total	301	213	282	254	283	160	271	228	121	101	99.8	233	2,550
1944	Max.	3.95	94	52	96	20.5	35	36	13.0	14.9	51	31	60	96
	Min.	1.50	1.50	2.65	3.0	2.65	2.15	3.8	3.1	2.8	2.6	2.9	3.15	1.50
	Mean	2.99	7.77	10.4	11.5	5.69	6.74	8.48	4.27	3.91	7.58	8.64	11.6	7.40
	Total	71.0	225	321	345	176	202	263	132	117	235	259	361	2,710
1945	Max.	80	18	40	150	8.5	8.0	8.4	28.5	8.6	11	18	23	150
	Min.	3.2	2.9	5.0	4.0	2.55	2.3	2.2	3.0	2.8	2.5	2.5	2.5	2.2
	Mean	7.84	4.82	11.8	20.0	3.33	3.28	3.15	7.47	4.57	3.66	5.83	5.25	6.76
	Total	243	135	365	598	103	98.2	97.6	232	137	120	175	163	2,470
1946	Max.	80	46	34	25	8.0	8.2	63	11.5	7.1	10.2	62	165	165
	Min.	2.2	3.2	3.0	4.0	2.6	2.4	3.3	3.4	3.0	2.9	3.5	6.8	2.2
	Mean	17.1	5.96	7.66	7.44	3.41	3.27	9.95	4.37	3.81	4.30	10.6	36.0	9.57
	Total	531	167	244	223	106	98.2	308	136	114	133	317	1,120	3,500
1947	Max.	80	13.3	39	30	64	23	23.5	41	40	119	87	95	119
	Min.	2.8	2.2	2.4	3.0	4.5	3.2	2.8	2.3	2.6	1.92	3.7	3.9	1.92
	Mean	8.10	3.00	9.95	8.03	14.6	6.20	6.21	6.66	8.37	9.72	12.9	19.0	9.45
	Total	251	84.0	308	241	453	186	192	207	251	301	386	588	3,450
1948	Max.	330	40	47	--	--	8.2	30.5	13.6	5.0	--	--	--	--
	Min.	2.9	2.7	3.1	--	--	3.4	4.2	3.7	3.1	--	--	--	--
	Mean	38.1	7.00	11.6	--	--	4.62	7.76	5.16	6.42	7.28	8.13	28.4	--
	Total	1,180	203	359	--	--	139	241	160	193	226	244	880	--
1949	Max.	--	108	50	30.5	12.0	6.9	25.5	19.0	4.6	4.2	47	15.0	108
	Min.	--	3.4	3.2	3.5	2.7	2.7	3.35	3.35	2.35	1.89	2.65	2.75	1.89
	Mean	23.5	8.43	7.15	8.41	3.82	3.70	8.73	6.90	2.98	2.46	7.75	6.36	7.53
	Total	728	236	222	252	118	111	271	214	89.4	76.3	233	197	2,750
1950	Max.	68	30	91	66	27	9.3	21	159	8.3	10.9	150	78	159
	Min.	2.9	2.5	3.2	5.2	5.4	3.8	3.65	4.3	2.35	2.0	2.25	5.4	2.0
	Mean	9.41	6.95	13.5	16.6	10.5	5.43	7.72	17.1	4.42	4.13	32.5	20.1	12.4
	Total	292	195	419	498	324	163	239.35	531.3	132.60	127.95	975.60	622.3	4,520
1951	Max.	27	25.5	240	15	10	8.6	10.2	46	7.8	47	32	28.5	240
	Min.	4.5	3.65	5.0	3.5	2.9	2.25	2.2	2.8	2.1	1.96	2.95	2.95	1.96
	Mean	8.01	8.23	34.0	6.53	4.39	3.62	3.71	6.69	2.84	5.94	6.07	6.95	8.12
	Total	248.3	230.35	1,055.1	196.0	136.05	108.45	114.95	207.50	83.35	184.01	182.20	215.45	2,960
1952	Max.	87	65	15.1	10.8	26	18.3	32	12.0	7.7	54	25	26	87
	Min.	2.75	2.1	3.5	2.45	2.6	2.35	4.1	3.15	2.5	2.35	3.95	3.3	2.1
	Mean	10.3	6.10	7.24	5.14	5.30	8.96	7.76	4.64	3.84	9.58	9.67	8.23	7.24
	Total	319.10	176.80	224.3	154.20	164.30	268.95	240.6	143.95	115.10	296.95	290.00	255.05	2,650
1953	Max.	3.5	14.1	9.4	15.0	46	17.2	12.7	28	4.6	21.5	27.5	21	46
	Min.	2.0	1.91	2.5	2.0	2.5	3.15	3.15	3.4	2.7	2.5	2.6	3.75	1.91
	Mean	2.69	3.52	4.43	3.20	8.96	6.58	5.14	6.42	3.11	3.91	5.85	7.54	5.13
	Total	83.50	98.48	137.45	96.00	277.8	197.45	159.45	198.90	93.40	121.30	175.50	233.60	1,870

1954	Max.	20	13.0	44	20	28.5	30.5	32.5	26.5	12.3	7.9	33.5	65	65
	Min.	2.7	2.4	2.15	1.70	2.6	3.75	5.6	5.3	3.95	2.85	2.35	5.3	1.70
	Mean	4.44	3.89	8.09	4.51	8.04	7.26	12.8	9.95	5.64	4.02	4.42	20.1	7.82
	Total	137.55	109.05	250.90	135.21	249.25	217.65	396.6	308.4	169.05	124.60	132.75	622.8	2,850
1955	Max.	51	102	68	17.4	11.8	14.8	37.5	30.5	14.8	16.1	50	156	156
	Min.	4.4	6.8	5.3	4.4	4.4	3.45	3.15	5.0	2.85	2.6	2.35	2.25	2.25
	Mean	9.54	22.8	12.5	8.03	6.88	5.82	9.13	9.73	4.94	5.25	7.96	13.2	9.57
	Total	295.6	639.3	386.3	240.8	213.4	174.50	283.10	301.6	148.15	162.80	238.90	408.05	3,490
1956	Max.	31	38.5	16.5	45	18.0	35.5	10.7	43	4.8	14.5	22.5	10	45
	Min.	3.0	3.6	3.0	4.1	4.1	6.6	3.75	4.1	2.5	2.5	2.25	2.3	2.25
	Mean	7.10	14.0	6.23	8.38	8.06	12.5	5.78	10.1	3.24	5.94	3.80	4.35	7.44
	Total	220.10	404.65	193.05	251.4	249.9	374.7	179.05	313.9	97.10	184.15	113.90	135.0	2,720
1957	Max.	23	31	11	67	23	6.1							
	Min.	2.0	3.8	2.5	2.35	2.25	1.91			(Discontinued)				
	Mean	5.21	10.2	4.72	11.0	5.47	2.77							
	Total	161.50	285.15	146.35	329.05	169.65	83.04							

I-47 PELEKUNU STREAM NEAR PELEKUNU

Year		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1919	Max.	--	--	--	--	--	--	--	--	--	--	--	61	--
	Min.	--	--	--	--	--	--	--	--	--	--	--	2.3	--
	Mean	--	--	--	--	--	--	--	--	--	--	--	6.75	--
	Total	--	--	--	--	--	--	--	--	--	--	--	209	--
1920	Max.	28	--	55	18.6	6.4	9.4	6.5	18.4	13.0	13.0	--	258	258
	Min.	3.7	2.1	2.0	3.3	2.3	2.2	2.0	2.0	2.8	2.8	3.3	6.0	2.0
	Mean	7.58	2.94	12.2	6.33	3.00	3.44	3.14	5.55	4.36	4.68	17.1	31.4	8.51
	Total	235	85.4	379	190	93.1	103	97.2	172	131	145	512	972	3,110
1921	Max.	171	--	25	85	9.6	9.3	38	14.7	17.1	49	244	130	244
	Min.	--	--	2.8	4.5	3.1	2.4	2.2	3.6	2.7	3.2	3.0	6.0	2.2
	Mean	47.8	7.32	5.99	16.4	5.43	3.35	9.97	6.43	5.45	9.83	29.1	33.9	15.1
	Total	1,480	250	186	492	168	101	309	199	163	305	873	1,050	5,530
1922	Max.	--	66	54	14.9	18.3	6.6	6.1	13.9	16.5	15.7	21	13.5	--
	Min.	11.8	6.6	5.3	4.4	4.2	2.9	2.6	2.6	2.8	3.3	6.0	3.0	2.6
	Mean	27.8	16.9	17.3	7.10	6.63	3.76	3.21	4.74	4.96	6.22	11.1	5.57	9.58
	Total	861	474	536	213	205	113	99.6	147	149	193	334	173	3,500
1923	Max.	--	144	200	205	11.7	6.8	15.9	13.2	21	28	35	97	--
	Min.	3.5	6.0	4.8	9.7	4.1	3.0	3.3	2.8	2.4	2.7	3.9	3.6	2.4
	Mean	26.1	18.9	18.3	35.0	6.05	3.99	5.94	4.92	4.84	7.20	9.88	33.2	14.5
	Total	810	529	568	1,050	187	120	184	153	145	223	296	1,030	5,300
1924	Max.	18.9	109	17.8	39	57	9.7	58	19.4	--	39	150	80	150
	Min.	3.4	3.1	3.7	4.1	4.2	3.0	2.7	3.7	2.3	--	3.3	4.5	2.3
	Mean	7.03	14.8	6.63	17	10.3	3.77	7.51	5.75	6.16	9.38	15.1	18.4	10.1
	Total	218	430	206	511	320	113	233	178	185	291	453	572	3,710
1925	Max.	30	32	--	--	20	--	--	--	13.8	33	38	90	--
	Min.	4.0	3.3	3.0	7.0	5.0	--	--	--	2.2	2.1	3.1	2.4	2.1
	Mean	9.74	7.42	10.2	16.2	8.25	15.6	4.35	7.40	4.20	4.81	12.4	13.9	9.54
	Total	302	208	317	487	256	469	135	230	126	149	373	432	3,480

Table 7. MONTHLY AND ANNUAL STREAMFLOW AT STATIONS WITH RECORDS OF 10 YEARS OR MORE *(continued)*

I-47 PELEKUNU STREAM NEAR PELEKUNU (Continued)

Year		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1926	Max.	48	38	18	19.7	7	63	9.4	36	9.8	46	149	21	149
	Min.	2.2	3.6	2.9	3.9	2.6	2.2	1.9	2.3	1.9	2.0	2.6	2.9	1.9
	Mean	6.82	8.08	4.77	8.07	3.7	7.04	2.7	5.75	3.77	6.78	12	5.45	6.16
	Total	211	226	148	242	115	211	83.6	178	92.3	211	362	169	2,250
1927	Max.	158	58	35	194	50	23	36	11.3	42	6.6	--	75	194
	Min.	4.1	4.1	6.2	5.3	--	2.4	2.3	3.3	2.6	3.0	3.2	6.2	2.3
	Mean	21.6	11.0	11.5	33.3	10.6	6.31	9.42	6.61	8.63	4.32	18.7	22.3	13.7
	Total	670	308	355	1,000	328	189	292	205	259	134	560	693	4,990
1928	Max.	40	13.3	36	32	36	20	54	12.2	--	--	--	48	54
	Min.	5.4	4.6	2.2	3.6	4.6	3.0	5.2	--	--	--	--	2.8	--
	Mean	13.2	7.12	7.83	9.73	12.5	5.71	12.9	6.62	5.56	3.97	7.90	14.6	9
	Total	410	206	243	292	388	171	400	205	167	123	237	454	3,300
1929	Max.	--	--	--	--	--	--	--	--	--	--	--	--	--
	Min.	4.2	--	--	--	--	--	--	--	--	--	--	--	--
	Mean	10.4	--	--	--	--	--	--	--	--	--	--	--	--
	Total	197	--	--	--	--	--	--	--	--	--	--	--	--
1937	Max.	--	--	--	--	--	--	--	--	5.2	18	32	134	--
	Min.	--	--	--	--	--	--	--	--	3.4	3.4	4.5	4.3	--
	Mean	--	--	--	--	--	--	--	--	4.19	6.67	13.1	22.9	--
	Total	--	--	--	--	--	--	--	--	67.1	207	393	710	--
1938	Max.	44	31.5	51	240	79	29	12.7	135	10.3	61	29.5	117	240
	Min.	6	6.6	8.5	5.4	5.7	4.3	3.5	3.6	3.2	3.1	3.8	4.0	3.1
	Mean	13.8	13.6	25.2	34.2	18.3	9.06	5.09	18.1	4.63	6.76	7.93	16.8	14.5
	Total	429	382	780	1,030	569	272	158	562	139	210	238	522	5,290
1939	Max.	38.5	39.5	31.5	120	34	29	33	12.2	38.5	137	62	32.5	137
	Min.	5.4	5.6	4.4	4.2	5.4	6.4	3.8	3.5	3.35	3.1	6.0	4.6	3.1
	Mean	17.5	9.30	10.7	27.2	13.4	11.7	8.06	5.56	7.63	12.6	16.7	10.8	12.6
	Total	544	260	330	815	417	351	250	172	229	390	501	336	4,600
1940	Max.	153	20.5	44	13.2	88	7.4	14.9	76	52	71	206	81	206
	Min.	6.0	3.7	3.2	3.5	4.1	3.35	2.95	4.7	3.9	3.5	4.3	6.7	2.95
	Mean	24.0	6.30	9.34	5.41	12.9	4.10	4.31	15.4	10.8	11.4	16.5	18.1	11.6
	Total	745	183	289	162	400	123	134	476	325	353	496	561	4,250
1941	Max.	174	29	50	10.7	12.7	23	21	13.6	38.5	78	20	26.5	174
	Min.	5.2	4.2	4.1	3.25	3.1	3.35	2.8	2.65	3.1	3.85	2.95	3.85	2.65
	Mean	14.5	7.31	8.98	4.38	5.50	6.36	6.95	4.83	7.83	15.9	5.16	10.5	8.21
	Total	450	205	278	131	171	191	215	150	235	492	155	325	3,000
1942	Max.	10.7	47	250	53	19.2	7.3	23.5	14.2	8.4	16.8	17.9	36	250
	Min.	2.65	2.5	7.6	6.0	3.6	2.8	2.8	3.1	2.8	2.65	2.95	3.55	2.5
	Mean	3.71	10.0	43.5	14.5	7.32	3.91	6.04	5.03	3.88	4.96	5.34	9.12	9.81
	Total	115	281	1,350	434	227	117	187	156	117	154	160	283	3,580

1943	Max.	118	30	72	19.5	25.5	12.2	27	30.5	6.2	6.2	9.7	46	118
	Min.	3.6	3.3	4.0	4.3	3.85	3.6	3.6	3.45	2.65	1.91	1.46	2.5	1.46
	Mean	16.9	8.04	13.9	8.83	11.0	5.43	7.60	7.21	3.72	3.05	2.38	8.36	8.06
	Total	523	225	430	265	341	163	236	224	112	94.6	71.3	259	2,940
1944	Max.	11.3	90	102	88	11.4	27.5	21	5.8	5.5	24	58	33.5	102
	Min.	2.3	2.15	6.6	4.6	3.6	2.5	3.7	3.1	2.8	2.9	5.3	5.2	2.15
	Mean	4.35	10.6	19.4	13.4	5.84	6.23	6.15	3.68	3.33	5.43	11.6	11.4	8.43
	Total	135	307	602	400	181	187	190	114	99.9	168	347	352	3,080
1945	Max.	8.4	14.2	29	207	6.6	5.0	4.2	18.1	10.2	14.9	32.5	28	207
	Min.	3.4	3.2	5.7	4.5	2.6	2.4	2.0	2.3	2.5	2.2	2.7	2.4	2.0
	Mean	4.33	5.16	11.9	26.4	3.53	2.77	2.55	5.08	3.97	4.15	7.68	5.93	6.94
	Total	134	144	369	792	110	83.1	78.9	158	119	129	230	184	2,530
1946	Max.	143	73	30.5	26.5	6.8	8.0	32.5	10.0	6.1	44	57	300	300
	Min.	2.2	5.9	5.4	6.1	3.6	3.5	4.0	4.0	3.5	3.7	4.4	9.5	2.2
	Mean	24.6	11.6	12.5	10.7	4.60	4.42	9.80	5.07	4.13	7.30	13.4	38.0	12.2
	Total	762	325	389	320	142	133	304	157	124	226	401	1,180	4,460
1947	Max.	54	26.5	25	24.5	54	20	15.8	23	22	76	--	--	--
	Min.	4.5	3.8	4.2	4.2	5.9	4.0	3.7	3.2	4.0	3.2	--	--	--
	Mean	10.9	5.72	9.47	9.08	14.6	6.35	6.05	5.91	7.56	8.25	--	--	--
	Total	338	160	294	273	453	191	187	183	227	256	--	--	--
1948	Max.	(Records lost Nov. 2, 1947 to Jan. 26, 1948. Station destroyed by flood Jan. 26, 1948. Re-established June 21, 1948.)						15.4	--	--	--	--	179	--
	Min.							--	--	--	--	--	--	--
	Mean							7.60	4.98	6.30	8.32	12.1	43.0	--
	Total							236	154	189	258	362	1,330	--
1949	Max.	317	181	68	26	8.9	6.0	28	15.3	3.8	4.5	53	18.3	317
	Min.	6.9	4.9	3.8	4.3	3.0	2.4	3.8	3.6	2.6	2.0	2.6	3.6	2.0
	Mean	37.1	14.3	8.99	9.41	4.32	3.35	8.09	6.95	3.17	2.65	7.68	7.89	9.49
	Total	1,150	400	279	282	134	100	251	215	95.0	82.1	231	244	3,460
1950	Max.	290	31	170	140	33	10.8	16.5	311	9.0	6.5	273	130	311
	Min.	3.2	2.4	3.4	5.4	5.7	3.6	3.2	4.3	2.2	2.2	2.2	8.5	2.2
	Mean	27.2	8.47	17.2	29.7	12.7	5.23	6.64	27.5	3.68	3.52	57.1	42.4	20.2
	Total	842	237	534	892	393	157	2,057	853.5	110.5	109.15	1,713.9	1,313.0	7,360
1951	Max.	60	70	500	21	11	7.5	7.0	27.5	9.0	90[e]	28	34.5	500
	Min.	6.0	4.5	6.5	3.9	3.3	2.55	2.6	3.4	2.3	2.5	5.5	5.6	2.3
	Mean	14.4	12.9	61.9	9.18	4.94	3.86	3.78	6.17	3.19	9.65	9.35	9.77	12.5
	Total	445.0	361.3	1,918.5	275.4	153.1	115.70	117.30	191.35	95.80	299.15	280.4	303.0	4,560
1952	Max.	350[e]	57	21.5	11.3	14.1	21	60[e]	8.5	6.4	50	32.5	21	350
	Min.	5.3	3.45	5.6	4.1	3.55	3.2	4.6	3.5	2.7	2.7	5.8	4.0	2.7
	Mean	25.0	7.50	9.87	6.48	5.85	9.27	9.03	4.36	3.72	10.5	10.8	9.26	9.34
	Total	774.7	217.40	305.9	194.5	181.35	278.20	279.8	135.15	111.75	326.95	324.4	287.0	3,420
1953	Max.	9.3	13.0	20	7.6	58	12.5	13.6	20.5	3.85	13.0	21.5	55[e]	58
	Min.	2.7	2.4	3.55	2.65	2.75	3.05	2.85	3.05	2.1	1.71	1.90	3.65	1.71
	Mean	3.72	4.13	7.60	3.44	9.29	6.03	4.94	6.15	2.64	2.91	5.48	10.5	5.59
	Total	115.30	115.70	235.60	103.10	287.85	180.85	153.15	190.55	79.35	90.10	164.50	324.80	2,040
1954	Max.	92	17.6	77	44	23.5	33.5	39.5	20.5	11.5	8.1	70[e]	200[e]	200
	Min.	3.3	2.8	5.3	3.45	5.5	5.5	7.3	7.8	3.9	2.9	2.4	8.8	2.4
	Mean	8.74	5.24	15.0	6.87	8.91	9.06	16.8	11.4	5.62	3.92	5.53	37.2	11.3
	Total	270.95	146.70	463.8	206.10	276.1	271.9	521.3	353.3	168.6	121.65	166.00	1,154.1	4,120
1955	Max.	80[e]	240[e]	100[e]	23	13.2	11.3	42	27	11.9	14.1	80[e]	350[e]	350
	Min.	7.0	9.6	7.3	5.5	5.0	4.3	4.3	6.3	3.75	3.45	3.4	3.85	3.4
	Mean	13.8	41.2	17.9	8.33	6.84	5.67	9.35	9.89	5.02	4.84	12.2	23.9	13.1
	Total	429.0	1,153.7	554.4	249.8	211.9	170.1	289.7	306.7	150.45	150.05	364.95	739.70	4,770

Table 7. MONTHLY AND ANNUAL STREAMFLOW AT STATIONS WITH RECORDS OF 10 YEARS OR MORE *(continued)*

I-47 PELEKUNU STREAM NEAR PELEKUNU (Continued)

Year		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1956	Max.	45	60	17	70	16.2	63	11.0	29	5.7	23	59	28.5	70
	Min.	5.0	5.4	6.3	5.2	4.5	9.9	4.4	4.4	2.1	2.2	3.0	2.9	2.1
	Mean	11.4	19.1	8.81	10.6	9.05	17.3	6.87	10.7	3.20	6.76	7.05	5.94	9.71
	Total	354.9	554.0	273.2	316.9	280.4	520.3	212.9	330.2	95.9	209.65	211.4	184.1	3,540
1957	Max.	45	42	15.8	61	20	6.1							
	Min.	2.5	5.0	3.5	3.2	2.8	2.2							
	Mean	10.2	14.2	6.62	11.8	5.96	2.84			(Discontinued)				
	Total	314.7	398.4	205.3	353.8	184.8	85.1							

I-55 PULENA STREAM NEAR WAILAU

Year		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1919	Max.	--	--	--	--	--	--	--	--	--	--	16.3	72	--
	Min.	--	--	--	--	--	--	--	--	--	--	4.3	3.8	--
	Mean	--	--	--	--	--	--	--	--	--	--	7.15	11.6	--
	Total	--	--	--	--	--	--	--	--	--	--	215	361	--
1920	Max.	64	9.7	137	37	14.5	17.4	22	57	32	34	--	145	--
	Min.	6.0	3.9	3.4	6.4	3.3	3.3	3.3	4.1	5.0	4.5	--	6.2	3.3
	Mean	13.7	5.62	33.5	14.3	4.87	5.90	7.48	14.8	11.0	8.81	24.9	27.3	14.0
	Total	424	163	1,040	429	151	177	232	458	330	273	746	847	5,270
1921	Max.	234	23	22	71	31	23	68	41	35	137	281	304	304
	Min.	--	9.0	6.8	8.5	6.8	3.9	5.1	8.0	6.1	7.6	7.0	10.2	3.9
	Mean	64.1	15.7	9.27	22.4	13.8	6.71	20.6	15.7	13.8	22.1	48.3	65.6	26.6
	Total	1,990	441	288	674	428	201	640	488	414	686	1,450	2,030	9,730
1922	Max.	204	200	117	23	49	18.1	26	52	59	35	70	39	204
	Min.	8.8	14.6	9.0	8.5	8.3	5.4	5.3	6.1	7.0	7.0	11.9	6.1	5.3
	Mean	46.8	44.0	36.3	13.7	14.6	7.85	7.42	14.0	17.2	14.8	28.0	12.1	21.3
	Total	1,450	1,230	1,130	412	452	235	230	434	516	459	841	374	7,760
1923	Max.	441	98	304	261	--	--	50	32	44	58	44	153	441
	Min.	8.3	13.0	12.6	16.8	--	--	6.5	5.2	3.9	5.8	11.5	13.2	3.9
	Mean	65.1	26.7	30.6	43.7	12.3	9.24	13.2	9.54	8.82	15.4	20.0	67.3	26.9
	Total	2,020	746	949	1,310	381	277	411	296	264	277	599	2,090	9,820
1924	Max.	--	133	44	82	68	31	167	40	125	94	224	160	224
	Min.	6.8	5.8	6.6	6.2	7.2	5.3	7.6	9.9	6.7	9.6	8.5	8.7	5.3
	Mean	13.1	19.7	12.2	29.1	19.1	7.60	22.1	17.5	15.4	22.8	25.2	28.8	10.4

1925	Max.	29	52	86	104	36	54	29	52	32	52	54	--	--
	Min.	5.8	5.1	5.3	10.4	8.2	9.5	5.8	5.8	5.8	5.1	--	--	--
	Mean	10.6	12.9	19.9	30.0	14.8	23.1	8.79	14.1	10.1	11.2	20.8	12.5	15.7
	Total	328	360	618	900	460	693	272	438	302	347	624	386	5,730
1926	Max.	65	36	32	35	10.6	121	17.9	104	22	53	161	--	161
	Min.	5.9	5.3	4.7	5.6	4.7	4.8	4.5	4.5	4.3	5.6	5.3	--	--
	Mean	12.0	10.6	8.78	11.0	5.43	12.3	6.59	13.1	8.86	10.8	14.4	9.83	10.3
	Total	371	298	272	330	168	370	204	405	266	334	431	305	3,750
1927	Max.	212	55	73	--	--	--	53	32	55	22	105	--	--
	Min.	7.6	7.7	8.7	12.3	--	--	--	12.3	7.9	5.6	6.3	--	--
	Mean	27.3	13.2	19.2	51.0	14.8	12.3	18.1	20.8	17.4	10.4	27.2	41.6	22.8
	Total	847	371	595	1,530	458	370	560	644	521	321	816	1,290	8,320
1928	Max.	91	34	--	--	66	--	166	35	74	33	80	71	166
	Min.	--	--	--	--	7.2	5.5	--	10.3	8.3	7.0	8.8	7.4	--
	Mean	26.5	15.2	8.77	20.7	20.6	12.0	27.9	18.8	17.9	14.2	22.2	30.6	19.3
	Total	822	442	272	620	639	360	864	584	536	440	665	612	6,860
1937	Max.	--	--	--	--	--	--	--	9.2	20.5	38	69	335	--
	Min.	--	--	--	--	--	--	--	9.2	6.8	7.8	7.0	4.7	--
	Mean	--	--	--	--	--	--	--	9.20	10.8	13.7	23.8	50.5	--
	Total	--	--	--	--	--	--	--	9.2	322	423	714	1,560	--
1938	Max	97	59	112	444	60	35	29	517	34	257	44	125	517
	Min.	12.4	12.6	12.8	10.2	10.6	9.7	7.4	9.3	6	5.8	6.8	7.0	5.8
	Mean	25.2	21.6	35.9	63.0	24.7	17.7	12.5	50.6	14.1	19	15.3	27.1	27.3
	Total	781	606	1,110	1,890	765	532	387	1,570	422	588	458	840	9,950
1939	Max.	54	69	148	301	93	63	28.5	30	95	383	175	49	383
	Min.	10.8	15.3	9.2	9.2	10.4	9.8	7.5	6.0	8.1	6.6	14.1	9.7	6.0
	Mean	31.5	25.4	29.1	65.4	34.6	26.5	12.5	15.1	22.0	34.5	41.8	22.2	30.0
	Total	976	710	902	1,960	1,070	794	386	469	659	1,070	1,250	687	10,930
1940	Max.	381	204	102	31	232	22	35	224	117	135	575	78	575
	Min.	9.2	6.0	5.6	6.0	8.8	5.6	3.5	12.5	7.5	5.6	9.0	7.80	3.5
	Mean	38.9	18.3	18.4	9.72	31.9	9.69	7.8	44.1	26.5	23.6	38.2	21.1	24.1
	Total	1,210	530	570	292	990	291	242	1,370	796	732	1,140	655	8,820
1941	Max.	340	56	125	37.5	33.5	118	53	52	105	213	47	53	340
	Min.	6.2	4.4	5.3	5.1	5.6	3.6	6.2	5.8	6.8	9.4	5.4	7.3	3.6
	Mean	24.2	10.1	21.0	11.9	13.2	18.1	18.4	14.9	18.8	38.4	10.2	20.1	18.4
	Total	751	283	650	357	409	543	570	462	563	1,190	306	623	6,710
1942	Max.	21	97	841	132	44	25	66	41	41	39.5	41	159	841
	Min.	3.6	3.5	12.2	10.4	5.2	4.2	4.0	8.4	6.6	5.6	5.0	6.8	3.5
	Mean	6.34	16.0	123	29.2	12.1	8.04	16.2	17.0	12.2	13.0	10.3	21.8	23.9
	Total	196	447	3,820	875	374	241	502	528	366	403	310	677	8,740
1943	Max.	698	54	226	71	153	38.5	80	200	24	16.9	32	151	698
	Min.	7.0	4.8	7.3	9.0	8.4	6.0	6.8	7.0	4.7	4.1	3.3	5.8	3.3
	Mean	60.6	12.8	38.8	25.9	32.2	12.2	20.2	24.9	9.38	7.13	6.79	25.6	23.2
	Total	1,880	360	1,200	776	998	366	627	771	282	221	204	793	8,480
1944	Max.	27	177	311	239	24.5	74	69	13.7	20.5	53	213	144	311
	Min.	3.5	3.3	7.0	6.6	5.0	5.0	8.0	4.7	3.8	3.3	12.5	11.5	3.3
	Mean	8.19	20.0	42.7	26.1	10.2	15.0	18.1	7.64	6.37	10.8	29.7	29.6	18.7
	Total	254	581	1,320	783	317	451	562	237	191	335	890	917	6,840
1945	Max.	24	31	60	698	19.9	22	24.5	76	27	40	325	41	698
	Min.	4.9	4.5	10.6	9.3	6.0	4.7	3.8	5.1	5.8	4.4	6.6	5.6	3.8
	Mean	8.80	9.87	26.3	90.4	8.33	7.34	6.50	18.3	11.7	9.20	30.0	14.6	20.0
	Total	273	276	817	2,710	258	220	201	568	350	285	900	454	7,310

Table 7. MONTHLY AND ANNUAL STREAMFLOW AT STATIONS WITH RECORDS OF 10 YEARS OR MORE *(continued)*

I-55 PULENA STREAM NEAR WAILAU (Continued)

Year		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1946	Max.	324	174	63	93	17.9	24	118	34.5	18.4	70	108	893	893
	Min.	4.7	9.6	9.0	12.6	4.7	4.2	6.6	7.3	5.3	6.8	7.1	16	4.2
	Mean	59.3	24.8	27.0	26.1	8.55	7.34	28.9	11.7	8.98	15.9	26.9	89.6	28.1
	Total	1,840	696	837	784	265	220	895	364	269	493	808	2,780	10,240
1947	Max.	190	48	78	53	148	52	46	47	104	255	101	113	255
	Min.	7.9	4.5	5.3	6.6	10.6	6.0	7.3	5.3	10.0	5.1	8.5	9.3	4.5
	Mean	23.3	8.75	17.5	16.7	33.0	14.1	14.8	13.6	22.8	20.4	24.0	31.3	20.1
	Total	721	245	544	500	1,020	423	459	422	684	633	721	971	7,340
1948	Max.	2,190	70	102	300	55	56	34	40	68	30	34.5	163	2,190
	Min.	7.8	8.3	9.0	20	20	7.0	9.1	12	9.5	9.5	9.1	12.6	7.0
	Mean	143	20.3	26.2	36.1	26.9	12.8	19.3	17.4	16.6	15.4	20.0	48.3	33.7
	Total	4,420	588	813	1,080	833	386	598	540	497	478	600	1,500	12,330
1949	Max.	258	221	59	78	24	15.0	66	42	9.4	12.5	49	32	258
	Min.	16.4	9.1	8.3	8.9	6.7	6.9	8.0	7.1	4.2	3.7	5.6	7.3	3.7
	Mean	42.8	23.8	16.9	22.1	9.59	8.27	19.1	16.3	6.26	5.43	14.6	16.1	16.8
	Total	1,330	667	523	663	297	248	591	506	188	168	437	499	6,120
1950	Max.	270	82	161	144	54	21.5	50	542	18	22.5	654	222	654
	Min.	8.3	6.4	7.3	14.7	13.6	7.1	6.2	10	4.3	4.6	5.1	11	4.3
	Mean	33.1	18.1	26.2	47.4	26.8	11.3	18.4	45.8	8.82	8.95	84.4	45.3	31.2
	Total	1,030	507	811	1,420	831	340	571.6	1,419.6	264.7	277.3	2,531.4	1,403.1	11,410
1951	Max.	42	122	929	34.5	19.2	14.0	15	140	19.4	185	111	109	929
	Min.	7.3	5.2	12.6	6.6	5.2	3.9	3.9	5.5	4.0	4.2	8.3	8.5	3.9
	Mean	15.1	20.9	120	15.8	9.12	6.20	6.10	19.1	6.52	22.5	22.3	20.1	23.8
	Total	469.4	584.9	3,718.1	473.6	282.8	158.9	189.0	591.4	195.7	696.5	669.6	623.7	8,650
1952	Max.	513	115	74	27	46	51	159	21.5	21	82	82	71	513
	Min.	9.0	5.6	11.3	6.6	5.8	4.6	9.6	5.2	3.8	3.5	10.2	8.5	3.5
	Mean	44.0	13.9	23.3	13.6	10.9	22.9	24.1	8.62	7.20	22.3	26.1	22.1	20.0
	Total	1,365.5	402.4	723.7	408.1	337.6	687.4	746.0	267.1	216.15	690.75	782.8	684.7	7,310
1953	Max.	15.2	66	76	15.9	56	48	47	59	7.5	46	70	102	102
	Min.	4.4	3.65	6.2	3.65	3.95	6.6	6.4	5.6	3.3	3.3	3.95	7.3	3.3
	Mean	6.79	9.92	16.1	6.02	15.8	17.1	13.0	14.9	4.52	7.46	11.3	18.6	11.8
	Total	210.5	277.90	499.2	180.75	488.95	514.3	401.6	461.1	135.65	231.25	338.65	575.3	4,320
1954	Max.	65	26.5	145	71	42	65	123	90	44	19.0	186	196	196
	Min.	4.8	3.5	8.0	5.0	6.8	9.6	17.1	19.1	8.0	5.4	3.5	13.3	3.5
	Mean	10.5	8.21	28.7	10.9	15.2	18.0	44.1	36.3	14.6	8.72	11.7	59.7	22.4
	Total	325.3	229.95	889.1	326.1	472.2	538.9	1,365.9	1,124.6	438.9	270.2	352.30	1,851.7	8,190
1955	Max.	134	288	184	48	36	31.5	145	104	48	45	476	998	998
	Min.	9.9	15.5	12.3	8.0	7.1	6.8	7.3	12.6	6.0	6.0	4.8	4.1	4.1
	Mean	23.7	66.9	36.3	15.8	14.0	12.1	23.8	28.7	12.2	11.6	41.5	70.4	29.5
	Total	733.3	1,872.7	1,126.6	474.2	433.3	361.8	738.8	889.9	367.5	359.3	1,245.4	2,181.4	10,780

1956	Max.	200	110	42	85	55	159	28	64	16.2[e]	57	105	51	200
	Min.	6.0	6.5	7.0	6.5	6.2	16.2	8.0	7.0	4.0[e]	3.9	5.4	4.6	3.9
	Mean	29.0	34.0	15.0	18.0	19.4	40.1	12.5	20.8	6.66	17.4	14.4	10.4	19.7
	Total	899.0	985.5	464.5	539.5	601.5	1,203.2	388.2	643.6	199.8	540.9	431.9	323.1	7,220
1957	Max.	69	145	40	102	56	13.7[e]							
	Min.	3.2	9.4	4.6	4.6	4.7[e]	3.5[e]							
	Mean	19.2	33.0	11.5	25.2	13.0	5.23							
	Total	596.0	924.8	357.2	755.0	402.9	156.9			(Discontinued)				

I-59 WAIAKEAKUA STREAM NEAR WAILAU

Year		Jan	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1919	Max.	--	--	--	--	--	--	--	--	--	--	15.5	18.1	--
	Min.	--	--	--	--	--	--	--	--	--	--	2.6	2.4	--
	Mean	--	--	--	--	--	--	--	--	--	--	3.69	4.08	--
	Total	--	--	--	--	--	--	--	--	--	--	99.5	127	--
1920	Max.	15.4	--	49	13.8	2.6	5.6	7.4	15.9	8.7	--	26	84	84
	Min.	1.8	1.6	1.4	2.6	1.7	1.8	1.6	1.9	--	--	2.4	2.9	1.4
	Mean	4.11	1.88	14.9	5.58	2.15	2.55	3.21	5.05	4.20	3.48	7.83	11.0	5.51
	Total	127	54.4	461	167	66.8	76.5	99.4	157	126	108	235	341	2,020
1921	Max.	99	10.6	8.8	15.8	13.9	10.7	17.5	11.0	10.8	41	93	114	114
	Min.	7.3	4.3	3.4	3.7	3.7	2.6	3.2	3.5	3.0	3.4	3.2	4.2	2.6
	Mean	26.7	6.78	4.38	6.77	5.88	3.43	7.03	5.35	5.44	7.07	12.5	21.8	9.47
	Total	826	190	136	203	182	103	218	166	163	219	376	676	3,460
1922	Max.	68	52	27	13.6	25	8.4	21	35	23	15.7	24	18.9	68
	Min.	--	5.4	3.6	3.6	3.4	2.2	2.2	3.1	3.1	2.8	4.2	2.5	2.2
	Mean	15.8	13.9	9.71	6.33	6.24	3.53	3.95	6.26	6.82	5.81	9.42	5.01	7.68
	Total	488	389	301	190	193	106	122	194	205	180	283	155	2,810
1923	Max.	209	24	119	107	6.6	5.9	14.3	11.9	21	18.8	15.2	33	209
	Min.	3.1	4.5	3.2	5.2	3.3	2.8	3.6	3.3	2.7	3.8	3.7	3.5	2.7
	Mean	26.3	7.51	9.06	14.2	4.17	3.41	5.18	4.54	4.98	7.05	6.30	11.6	8.70
	Total	815	210	281	425	129	102	160	141	149	219	189	359	3,180
1924	Max.	8.0	48	15.8	22	26	9.2	56	11.5	50	30	78	42	78
	Min.	2.7	2.3	2.8	2.5	3.5	2.4	3.3	3.3	2.0	3.6	3.0	3.9	2.0
	Mean	4.04	7.70	4.83	8.14	8.24	3.49	7.68	5.73	5.35	8.31	9.24	7.49	6.68
	Total	125	223	150	244	255	105	238	178	160	258	277	232	2,440
1925	Max.	8.0	28	19.5	--	15.8	22	19.5	24	15.6	18.3	21	41	--
	Min.	3.0	--	--	--	4.3	4.3	2.9	3.2	2.6	3.2	4.2	3.0	--
	Mean	4.24	7.05	6.56	11.3	7.55	9.68	4.68	7.19	5.99	5.65	6.86	7.04	7.10
	Total	131	198	203	338	234	290	145	223	180	175	260	218	2,600
1926	Max.	23	21	45	12.1	8.7	41	10.6	23	19.9	13.4	55	21	55
	Min.	2.8	2.4	2.3	2.6	1.8	1.6	2.2	3.5	2.5	2.3	1.9	2.0	1.6
	Mean	5.42	4.95	5.09	4.39	2.44	5.26	4.18	6.78	4.77	4.47	5.25	5.02	4.83
	Total	168	138	158	132	75.6	158	130	210	143	138	158	156	1,760
1927	Max.	121	--	--	--	--	--	25	16.9	23	13.2	47	66	--
	Min.	35	--	--	--	--	--	--	3.5	2.8	3.4	2.9	6.8	--
	Mean	13.2	4.15	9.10	26.9	7.94	5.32	7.09	7.58	6.92	4.99	12.1	17.3	10.2
	Total	408	116	282	808	246	160	220	235	208	155	364	535	3,740

I-59 WAIAKEAKUA STREAM NEAR WAILAU (Continued)

Year		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1928	Max.	37	22	6.8	37	36	30	52	16.7	28	23	--	--	--
	Min.	5.4	3.8	2.7	2.7	3.8	3.2	4.6	4.7	3.7	3.8	--	--	--
	Mean	10.4	6.53	3.86	8.59	9.45	7.48	10.3	8.37	6.90	6.18	5.80	8.48	7.70
	Total	322	190	120	258	293	224	318	260	207	192	174	263	2,820
1929	Max.	78	63	--	29	6.2	19.2	25	17.0	2.8	--	--	--	--
	Min.	--	2.7	4.7	4.3	2.8	2.5	1.7	2.7	2.7	--	--	--	--
	Mean	11.4	12.3	11.9	7.79	3.96	4.08	3.86	4.77	2.75	--	--	--	--
	Total	354	346	368	234	123	122	120	148	5.5	--	--	--	--
1937	Max.	--	--	--	--	--	--	--	4.8	15.2	15.4	24.5	78	--
	Min.	--	--	--	--	--	--	--	4.2	3.4	3.4	3.7	3.2	--
	Mean	--	--	--	--	--	--	--	4.50	6.24	5.79	8.25	13.6	--
	Total	--	--	--	--	--	--	--	9.00	187	180	248	421	--
1938	Max.	22.5	19.9	32.5	85	32	14.8	19.6	76	20.5	45	16.6	24.5	85
	Min.	3.9	3.9	3.7	4.2	4.6	3.9	3.3	4.8	3.85	3.7	3.25	3.5	3.25
	Mean	8.07	7.60	11.2	14.8	11.8	7.36	5.97	15.6	6.17	7.21	6.10	7.11	9.09
	Total	250	213	347	444	365	221	185	482	185	224	183	220	3,320
1939	Max.	28.5	38	64	56	28	26.5	12.9	13.9	30.5	76	57	18.1	76
	Min.	4.6	6.6	4.2	3.85	4.0	4.2	4.0	3.25	4.6	3.85	4.6	4.6	3.25
	Mean	12.0	11.2	9.05	14.2	8.50	10.2	5.86	6.40	8.77	9.60	13.0	7.76	9.68
	Total	372	313	281	425	264	306	182	198	263	298	391	241	3,530
1940	Max.	31.5	19.6	14.1	9.6	31	14.1	17.4	51	48	50	65	25	65
	Min.	3.85	2.95	2.8	2.8	3.4	3.25	2.25	5.5	3.7	3.4	4.6	4.2	2.25
	Mean	6.47	4.43	4.92	3.79	9.72	5.09	3.70	14.5	9.44	9.08	8.97	7.97	7.36
	Total	200	129	153	114	301	153	115	448	283	282	269	247	2,690
1941	Max.	49	9.4	53	28	26	45	21	29	33	80	11.3	16.4	80
	Min.	3.25	2.5	2.8	2.95	3.25	3.25	3.55	3.25	3.4	4.0	3.2	3.5	2.5
	Mean	6.57	3.58	7.50	6.74	5.89	9.17	7.35	7.18	6.52	13.5	4.31	6.30	7.09
	Total	204	100	233	202	182	275	228	223	196	420	129	195	2,590
1942	Max.	15	22	120	45	22	15.2	20	15	15.6	9.5	11.7	21	120
	Min.	2.0	1.90	3.1	5.0	3.1	2.8	2.5	4.4	3.25	2.15	1.78	2.15	1.78
	Mean	3.44	4.17	22.5	9.66	5.58	4.30	6.15	7.23	5.55	4.29	3.20	4.99	6.79
	Total	107	117	698	290	173	129	191	224	167	133	96.0	155	2,480
1943	Max.	112	8.2	44	23.5	16.9	19.4	16.3	29.5	12.2	18.4	16.	32	112
	Min.	2.95	2.15	2.05	3.1	3.5	3.5	3.5	3.6	2.8	2.8	2.5	3.5	2.05
	Mean	11.6	3.56	8.13	7.06	6.92	5.74	6.17	7.67	4.57	4.84	3.80	10.1	6.72
	Total	360	99.6	252	212	214	172	191	238	137	150	114	312	2,450
1944	Max.	7.6	52	42	113	14.0	32.5	22.5	4.5	12.5	22	54	36	113
	Min.	2.6	2.6	3.3	3.05	2.8	3.3	3.5	2.7	2.35	2.7	4.8	4.2	2.35
	Mean	3.88	6.75	8.68	9.45	4.04	6.76	6.54	3.16	3.62	5.80	9.37	9.77	6.47
	Total	120	196	269	283	125	203	203	98.0	109	180	281	303	2,370

1945	Max.	6.8	8.8	34	135	5.2	9.6	13.6	28.5	6.6	7.5	70	44	135
	Min.	2.55	2.35	3.05	3.05	2.6	2.45	2.3	2.7	2.6	2.3	3.0	2.5	2.3
	Mean	3.41	3.31	6.23	19.6	3.24	3.38	3.42	5.80	3.75	3.17	7.67	6.98	5.82
	Total	106	92.6	193	588	100	101	106	180	112	98.3	230	216	2,120
1946	Max.	72	31	13.3	23	4.5	7.0	32.5	8.1	5.8	15.4	34.5	127	127
	Min.	2.3	3.7	3.7	4.2	2.5	2.5	3.5	3.6	3.0	2.7	2.2	6.3	2.2
	Mean	13.9	6.68	6.88	6.92	3.13	3.06	7.82	4.35	3.81	4.18	6.86	22.5	7.54
	Total	432	187	213	208	96.9	91.7	242	135	114	130	206	698	2,750
1947	Max.	39.5	6.6	38.5	14.3	57	15.2	15.7	24	54	39.5	28	29	57
	Min.	3.8	2.7	2.7	2.9	4.0	2.8	3.2	2.9	4.1	3.0	3.7	3.7	2.7
	Mean	7.46	3.46	6.35	4.92	9.55	4.96	5.89	5.99	9.99	5.51	7.35	8.66	6.70
	Total	231	96.9	197	148	296	149	182	186	300	171	220	268	2,440
1948	Max.	273	30	57	76	20	11.8	13.4	18.9	18.3	9.9	10.1	27	273
	Min.	3.4	3.6	3.5	7.3	6.6	4.5	6.8	6.0	5.0	4.5	4.5	5.0	3.4
	Mean	25.3	7.44	9.29	13.0	9.53	5.47	8.49	8.78	6.97	6.33	6.28	9.29	9.71
	Total	783	216	288	389	295	164	263	272	209	196	188	288	3,550
1949	Max.	26.5	48	14.1	18.5	14	7.6	22.5	15.2	5.0	6.2	16.1	16.2	48
	Min.	3.9	3.3	3.0	3.5	2.0	1.6	3.4	2.95	1.74	1.30	1.41	2.7	1.30
	Mean	8.65	6.31	4.66	6.27	3.80	2.64	7.54	5.19	2.27	2.37	4.24	5.29	4.94
	Total	268	177	145	188	118	79.3	234	161	68.0	73.4	127	164	1,800
1950	Max.	33.5	27	37	33	19.3	7.4	19.1	73	9.6	10.2	159	63	159
	Min.	2.95	2.2	2.55	4.2	4.5	3.4	3.25	4.0	3.1	3.0	3.0	4.2	2.2
	Mean	6.00	5.38	5.80	12.3	7.53	4.43	7.71	10.5	4.37	4.18	21.1	13.2	8.55
	Total	186	151	180	370	233	133	238.95	325.1	131.20	129.65	632.70	410.2	3,120
1951	Max.	19.1	25	146	14.8	10.9	4.6	9.0	74	13.3	27.5	38	52	146
	Min.	3.4	2.5	3.4	3.25	2.5	1.84	1.73	2.05	2.15	2.4	3.1	3.1	1.73
	Mean	6.30	6.40	23.1	6.70	4.47	2.41	3.23	8.88	3.37	5.85	6.77	7.10	7.08
	Total	195.15	179.25	716.8	201.15	138.70	72.41	100.11	275.40	101.15	181.45	203.20	220.15	2,580
1952	Max.	122	40[e]	27	9.5	26	21	72	16.9	15.9	49	76	35.5	122
	Min.	3.25	2.3	3.85	2.65	2.35	2.25	4.6	3.3	2.65	2.65	4.4	4.2	2.25
	Mean	11.1	5.36	7.79	5.08	4.62	8.39	11.2	5.57	4.65	10.9	12.7	9.95	8.16
	Total	345.10	155.45	241.35	152.25	143.20	251.70	347.0	172.80	139.45	338.55	380.7	308.3	2,980
1953	Max.	4.0	27.5	30	15.6	31.5	21.5	16.6	25	13.3	24.5	26.5	20.5	31.5
	Min.	2.5	2.25	3.7	2.5	2.9	3.2[e]	3.0	3.0	1.85	2.1	2.5	2.75	1.85
	Mean	3.17	4.88	7.85	3.90	7.08	6.71	5.26	7.26	2.91	4.54	5.55	5.55	5.40
	Total	98.15	136.55	243.25	116.95	219.35	201.35	163.20	225.15	87.43	140.75	166.60	171.95	1,970
1954	Max.	16.0	12.4	28	14.5	22	21.5	82	64	21	13.2	52	42	82
	Min.	1.85	1.45	3.15	1.98	2.35	3.7	5.6	6.9	3.85	2.1	1.65	4.7	1.45
	Mean	4.08	3.08	7.79	3.61	6.01	6.74	14.7	14.3	6.84	3.92	4.47	16.0	7.69
	Total	126.43	86.35	241.35	108.18	186.35	202.1	455.9	444.5	205.05	121.55	134.23	495.2	2,810
1955	Max.	40	57	32	14.1	13.9	15.1	63	40	21	19.5	127	189	189
	Min.	3.85	4.4	4.0[e]	3.25	3.1	3.4	3.7	4.6	2.95	2.8	2.4	1.84	1.84
	Mean	7.09	15.1	8.89	5.06	5.19	5.29	9.47	11.4	5.42	5.08	12.7	15.8	8.84
	Total	219.75	421.8	275.5	151.75	160.95	158.80	293.7	354.6	162.70	157.40	381.55	489.03	3,230
1956	Max.	42	47	17.8	50	28.5	38	19.3	31	25	46	20.5	10.4	50
	Min.	2.4	3.1	2.7	2.4	2.7	5.4	3.5	3.65	2.55	2.8	3.1	2.5	2.4
	Mean	5.79	12.1	5.58	6.37	8.80	12.1	7.09	9.27	5.04	8.98	6.06	3.79	7.59
	Total	179.45	350.55	173.00	191.05	272.95	362.5	219.80	287.25	151.15	278.50	181.80	117.50	2,770
1957	Max.	14.8	29.5	19.7	100	20.5	10.3							
	Min.	2.3	3.7	2.95	2.8	2.5	2.3							
	Mean	4.52	8.80	4.78	11.4	5.53	3.14							
	Total	140.25	246.5	148.05	341.75	171.45	94.30							

(Discontinued)

Table 7. MONTHLY AND ANNUAL STREAMFLOW AT STATIONS WITH RECORDS OF 10 YEARS OR MORE *(continued)*

I-73 HALAWA STREAM NEAR HALAWA

Year		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1918	Max.	31	137	187	236	78	92	103	135	35	91	61	129	236
	Min.	4.2	4.0	9.9	11.0	8.3	5.3	8.2	5.6	4.0	4.3	3.1	5.8	3.1
	Mean	11.5	34.1	52.4	73.6	23.4	21.8	20.2	18.9	7.76	10.4	12.6	23.6	25.7
	Total	356	955	1,620	2,210	725	653	627	584	233	323	377	732	9,400
1919	Max.	22	80	173	104	80	49	46	134	134	--	50	--	173
	Min.	3.2	3.7	5.4	3.4	5.5	3.1	4.4	6.3	--	--	1.0	--	--
	Mean	7.5	12.2	18.1	18.6	13.9	9.78	14.8	20.8	15.2	9.90	3.75	8.39	12.7
	Total	231	343	562	558	432	294	458	646	456	307	112	260	4,660
1920	Max.	107	--	122	97	6.1	15.2	28	58	34	82	74	--	--
	Min.	2.4	--	1.1	3.6	1.7	1.8	1.7	2.5	3.2	2.9	5.8	--	--
	Mean	9.15	2.66	25.3	11.3	2.75	5.50	7.89	14.4	8.47	12.9	24.1	26.7	12.6
	Total	284	77	785	339	85.3	165	245	448	254	401	722	829	4,630
1921	Max.	--	23	--	--	61	--	--	43	55	150	250	206	--
	Min.	--	4.9	3.5	--	--	--	--	5.8	5.3	5.6	4.8	7.0	--
	Mean	76.2	10.6	9.98	16.4	12.1	4.03	18.9	13.6	14.4	20.3	34.3	49.4	23.4
	Total	2,360	296	309	491	377	121	585	423	433	629	1,030	1,530	8,580
1922	Max.	149	134	63	54	62	--	41	--	86	66	99	82	--
	Min.	8.3	8.6	6.6	6.1	--	--	3.5	--	4.9	4.5	6.7	4.2	--
	Mean	35.5	31.7	21.9	17.2	16.6	8.02	8.95	15.8	18.3	17.4	26.6	11.4	19.0
	Total	1,100	887	680	517	515	241	278	489	549	540	797	354	6,950
1923	Max.	400	88	250	--	--	--	39	45	96	75	101	139	--
	Min.	5.8	5.8	4.2	--	--	--	4.4	3.2	2.6	4.6	5.1	4.6	--
	Mean	59.6	18.3	20.0	44.8	4.84	5.96	10.1	9.69	13.8	18.4	17.3	38.5	21.8
	Total	1,850	512	619	1,340	150	179	313	300	414	571	519	1,190	7,960
1924	Max.	19.8	138	60	--	--	38	124	19.1	111	72	131	119	--
	Min.	3.2	2.6	3.5	--	--	2.8	--	4.4	2.1	5.6	4.7	3.9	2.1
	Mean	7.33	17.5	10.0	23.9	21.1	6.97	14.3	10.3	10.9	20.7	17.7	12.2	14.4
	Total	227	507	310	718	654	209	443	319	327	640	530	379	5,260
1925	Max.	56	116	46	82	58	63	--	--	--	--	--	--	--
	Min.	--	3.5	4.4	7.2	6.5	8.1	4.2	--	6.5	--	--	--	--
	Mean	9.10	23.3	15.6	22.0	16.2	21.4	10.9	16.4	13.6	14.5	20.3	14.4	16.5
	Total	282	652	484	659	501	643	336	507	409	450	610	447	5,980
1926	Max.	--	47	82	51	28	120	39	--	--	52	196	91	196
	Min.	--	3.5	2.6	3.5	2.2	1.8	1.8	--	--	2.8	2.9	2.5	1.8
	Mean	19.9	9.44	8.30	11.1	4.45	13.9	8.60	14.0	15.8	14.7	16.9	16.1	12.8
	Total	616	264	257	334	138	417	267	435	474	454	507	499	4,660
1927	Max.	218	45	108	--	--	--	48	67	66	28	--	--	--
	Min.	4.3	2.2	4.3	--	--	--	--	5.8	5.6	4.8	--	--	2.2
	Mean	25.8	9.58	19.5	62.7	21.2	10.6	12.0	22.7	15.3	9.72	37.6	38.4	23.8
	Total	800	268	605	1,880	658	317	372	703	460	301	1,130	1,190	8,600

1928	Max.	--	--	41	142	150	91	--	--	--	--	--	--	--
	Min.	--	6.9	3.8	7.1	7.1	6.5	--	--	--	--	--	--	--
	Mean	21.2	14.4	10.4	26.9	26.2	19.3	23.7	17.4	13.4	15.5	11.6	17.9	18.2
	Total	656	416	322	808	813	578	735	538	401	480	349	555	6,650
1929	Max.	--	--	--	123	47	44	58	18.5	--	--	196	--	--
	Min.	--	--	--	5.0	3.6	3.1	2.4	3.6	--	--	4.3	--	--
	Mean	24.1	11.8	21.6	14.7	7.89	7.34	9.24	8.39	4.74	9.38	48.9	37.4	17.2
	Total	748	329	668	442	245	220	286	260	142	291	1,470	1,160	6,260
1930	Max.	209	--	--	82	29	49	48	54	123	113	246	23	246
	Min.	7.2	--	6.2	5.5	4.0	5.2	5.5	5.5	7.8	5.0	4.5	4.3	--
	Mean	29.2	12.6	26.9	26.4	8.10	16.2	16.6	13.9	36.9	22.7	37.6	10.4	25.8
	Total	905	352	835	792	251	485	514	432	1,110	704	1,130	322	7,830
1931	Max.	119	22	120	172	76	27	129	103	--	--	--	--	172
	Min.	2.7	2.9	2.9	3.6	5.2	1.3	4.3	5.2	--	--	--	--	1.3
	Mean	10.7	7.87	12.6	28.4	18.5	5.76	18.1	28.5	27.5	14.5	14.2	19.8	17.2
	Total	331	220	390	852	575	173	560	884	824	448	424	615	6,300
1932	Max.	64	203	93	245	206	69	34	--	--	--	--	--	--
	Min.	--	13	2.7	4.7	6.4	4.0	4.5	--	--	--	--	--	--
	Mean	14.9	73.7	15.0	36.1	20.9	18.2	16.6	--	--	--	--	--	--
	Total	463	2,140	465	1,080	648	547	298	--	--	--	--	--	--
1937	Max.	--	--	--	--	--	--	--	--	--	--	74	390	--
	Min.	--	--	--	--	--	--	--	--	--	--	4.9	3.2	--
	Mean	--	--	--	--	--	--	--	--	--	--	16.4	48.4	--
	Total	--	--	--	--	--	--	--	--	--	--	229	1,500	--
1938	Max.	119	73	239	295	289	65	83	286	44	158	58	201	295
	Min.	4.8	3.8	7.2	4.5	7.2	4.1	3.5	7.0	3.1	2.7	3.2	4.0	2.7
	Mean	21.7	19.2	34.8	40.6	48.6	15.1	15.3	45.1	9.52	17.6	14.0	25.7	25.7
	Total	674	537	1,080	1,220	1,510	454	473	1,400	286	544	421	796	9,400
1939	Max.	186	121	160	235	52	58	40	78	106	357	142	97	357
	Min.	6.8	7.5	6.2	6.4	3.8	5.1	5.4	3.9	5.6	3.4	8.7	5.8	3.4
	Mean	34.5	23.3	23.6	42.2	14.5	19.4	11.8	16.2	23.8	30.0	30.2	27.6	24.7
	Total	1,070	651	731	1,270	450	583	366	502	713	931	905	855	9,030
1940	Max.	143	75	81	35.5	135	73	66	160	162	216	259	96	259
	Min.	2.7	2.3	2.6	3.7	5.1	3.4	1.8	8.2	3.6	3.6	6.4	4.6	1.8
	Mean	12.4	12.2	17.0	9.62	31.5	11.7	7.71	35.2	20.8	29.1	26.9	25.5	20.0
	Total	385	354	526	288	976	351	239	1,090	624	904	808	792	7,340
1941	Max.	119	131	209	136	108	166	97	178	141	474	104	63	474
	Min.	3.7	2.6	3.3	3.4	4.2	4.2	5.0	4.2	5.5	10.0	5.3	4.8	2.6
	Mean	17.8	14.7	27.3	19.5	13.8	27.0	20.8	24.8	20.9	64.7	17.5	18.5	24.1
	Total	553	412	846	584	429	810	645	770	627	2,010	525	574	8,780
1942	Max.	38	90	461	293	83	46	112	71	62	364	102	116	461
	Min.	2.1	1.4	5.1	10.0	2.2	1.6	4.2	6.9	5.0	2.8	2.6	5.5	1.4
	Mean	7.58	15.1	86.4	42.6	11.7	10.4	22.8	20.6	19.7	30.2	12.8	23.0	25.4
	Total	235	423	2,680	1,280	362	313	708	638	592	938	384	713	9,270
1943	Max.	401	171	302	80	151	63	45	94	44	144	31	113	401
	Min.	3.7	2.6	4.4	6.0	5.4	4.4	3.85	3.6	2.65	2.95	1.8	3.4	1.8
	Mean	41.7	19.2	37.5	22.6	28.5	18.2	13.3	19.0	9.78	20.8	6.31	24.0	21.9
	Total	1,290	539	1,160	679	884	545	413	589	293	645	189	745	7,970
1944	Max.	16.7	226	143	192	54	66	74	15	101	176	133	157	226
	Min.	1.5	1.4	3.3	3.4	2.2	3.5	5.4	1.7	1.25	1.6	5.8	4.6	1.2
	Mean	5.33	22.5	31.4	16.8	8.24	15.4	18.9	3.64	11.4	18.1	23.5	24.9	16.6
	Total	165	652	973	505	255	463	587	113	343	560	706	771	6,090

Table 7. MONTHLY AND ANNUAL STREAMFLOW AT STATIONS WITH RECORDS OF 10 YEARS OR MORE *(continued)*

I-73 HALAWA STREAM NEAR HALAWA (Continued)

Year		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1945	Max.	46	25.5	70	221	147	24	53	133	24.5	31.5	91	194	221
	Min.	1.81	1.67	3.6	2.95	1.8	2.15	1.6	2.55	2.55	1.8	2.8	2.25	1.6
	Mean	6.33	5.70	14.1	38.9	8.65	6.06	7.63	15.8	7.28	6.49	14.5	26.8	13.2
	Total	196	160	438	1,170	268	182	236	489	218	201	435	831	4,820
1946	Max.	292	77	37.5	93	24	35	205	36.5	24.5	99	138	282	292
	Min.	2.2	3.2	3.2	6.0	3.1	3.0	5.0	5.4	3.7	2.65	4.2	7.3	2.2
	Mean	35.5	16.4	13.7	17.5	5.19	7.59	32.5	11.7	9.19	11.6	23.0	54.7	20.0
	Total	1,100	459	423	526	161	228	1,010	362	275	358	690	1,700	7,290
1947	Max.	190	95	278	214	182	48	45	93	117	71	88	164	278
	Min.	4.2	1.54	2.3	4.4	4.6	3.8	4.3	3.7	5.4	2.9	3.8	4.7	1.54
	Mean	23.6	8.26	29.8	26.1	34.9	13.8	12.9	16.5	28.0	8.18	17.3	22.8	20.3
	Total	732	231	923	782	1,080	415	399	511	839	254	520	707	7,390
1948	Max.	490	93	152	362	113	64	100	67	115	33.5	53	119	490
	Min.	3.45	4.1	8.8	9.0	7.8	5.2	4.2	3.6	3.6	4.6	6.3	7.9	3.45
	Mean	52.4	21.0	33.5	50.8	23.6	12.4	18.3	17.6	15.1	11.3	20.2	26.4	25.2
	Total	1,620	608	1,040	1,520	731	371	568	547	452	351	607	817	9,230
1949	Max.	155	292	124	31.5	70.5	25	82	72	15	26	22	36	292
	Min.	8.2	4.6	4.0	4.2	2.65	2.8	2.5	7.7	3.7	2.2	2.35	5.3	2.2
	Mean	35.7	24.5	14.5	10.9	9.69	6.26	20.1	20.0	6.03	5.11	9.11	12.8	14.5
	Total	1,110	685	450	326	300	188	622	619	181	158	273	396	5,310
1950	Max.	52	43	55	87	39	16.8	64	240	22	52	406	223	406
	Min.	3.4	1.88	3.65	4.2	6.1	3.6	3.9	3.9	2.55	2.95	3.9	6.4	1.88
	Mean	11.5	9.62	9.24	22.4	15.9	7.34	16.7	21.6	6.32	12.0	63.2	38.6	19.6
	Total	356	269	286	673	493	220	517.3	670.3	189.70	371.00	1,895.3	1,197.0	7,140
1951	Max.	58	79	422	28.5	30.5	10.5	31	114	39.5	82	66	160	422
	Min	5.7	3.9	7.2	5.2	3.8	1.85	1.85	4.2	1.85	3.45	5.7	5.2	1.85
	Mean	17.2	18.5	52.9	11.7	9.31	4.06	8.34	17.1	6.35	15.7	13.4	23.7	16.6
	Total	533.1	517.1	1,639.9	351.0	288.6	121.95	258.65	531.2	190.40	487.75	401.9	735.5	6,060
1952	Max.	374	143	92	29.5	67	42	178	44	43	173	336	77	374
	Min.	5.7	4.7	7.5	4.2	4.2	3.85	7.6	5.2	3.8	4.7	6.9	5.7	3.8
	Mean	27.1	16.0	21.4	10.2	11.1	16.4	22.6	12.6	10.1	27.3	34.6	19.3	19.1
	Total	841.1	465.2	662.2	307.1	344.0	490.70	699.1	392.0	303.5	846.4	1,036.5	596.8	6,980
1953	Max.	13.1	90	136	78	168	42	49	64	133	42	67	108	168
	Min.	3.1	2.45	4.7	4.2	7.6	5.2	3.9	3.9	1.90	3.9	3.35	3.9	1.90
	Mean	5.16	11.2	18.1	11.5	23.9	13.9	10.9	16.4	8.45	10.4	10.7	14.7	13.0
	Total	159.90	314.00	560.2	345.4	741.3	417.6	337.2	507.8	253.40	321.1	322.45	455.3	4,740
1954	Max.	51	35.5	155	50	78	41	384	64	31	32	197	250	384
	Min.	2.2	0.87	5.0	3.35	4.4	5.7	9.1	9.1	4.4	3.35	1.90	7.2	0.87
	Mean	8.99	8.86	25.3	9.60	20.9	15.9	37.6	23.8	10.6	8.06	--	38.2	18.5
	Total	278.60	248.03	784.7	287.85	648.4	477.1	1,165.9	736.4	316.9	249.90	359.00	1,183.8	6,740

1955	Max.	146	236	129	47	42	34	132	83	33	141	288	458	458
	Min.	5.0	9.1	7.2	4.4	4.4	5.0	6.4	7.2	3.9	4.4	3.35	1.68	1.68
	Mean	18.9	43.2	24.1	11.0	11.5	11.3	20.4	22.1	10.2	14.8	28.5	40.5	21.3
	Total	585.6	1,210.8	745.9	331.2	357.9	338.1	633.9	686.3	305.2	458.0	856.30	1,253.98	7,760
1956	Max.	131	98	67	121	59	59	85	76	94	144	98	32.5	144
	Min.	4.0	4.9	4.0	4.8	4.8	8.4	5.3	4.8	3.0	3.7	3.4	2.8	2.8
	Mean	18.4	27.1	14.5	21.2	20.2	22.3	19.1	23.3	11.5	27.2	15.7	8.78	19.1
	Total	571.9	786.3	450.7	634.9	626.3	668.7	592.2	721.1	344.75	842.75	471	272.3	6,980
1957	Max.	39.5	70	70	358	56	45	47	135	59	54	224	129	358
	Min.	2.7	4.6	2.9	4.2	2.3	1.66	4.3	5.7	3.45	2.4	5.5	10.2	1.66
	Mean	12.2	21.0	12.4	32.9	11.3	5.40	11.4	24.5	10.4	9.72	47.0	27.1	18.7
	Total	378.7	587.6	385.2	986.2	351.05	161.95	352.4	758.0	310.50	301.35	1,409.7	840.9	6,820
1958	Max.	72	209	189	97	112	48	93	291	41	132	147	73	291
	Min.	3.1	3.1	4.8	2.55	4.4	3.55	5.3	7	4.7	5.5	5.3	5.3	2.55
	Mean	10.9	17.3	18.8	12.8	22.7	12.9	32.1	35.2	14.2	27	19.5	19.9	20.4
	Total	337.85	483.30	582.5	383.35	704.3	386.85	995.7	1,090.7	425.2	837.1	584.7	617.0	7,428.55
1959	Max.	150	109	53	152	52	26	28.3	129	(Inc.)	80.9	135	61.0	--
	Min.	5	5.3	3.55	5.9	5.3	3	3.20	3.54		2.99	4.66	5.34	--
	Mean	24.4	19.6	12.3	28.5	14.3	7.19	8.40	12.82		12.96	23.94	16.63	--
	Total	755.9	548.9	380.20	856.2	444.6	215.8	260.67	397.56		401.88	718.49	515.83	--

II-79 PUNAULA STREAM NEAR PUKOO

Year		Jan.	Feb.	Mar.	Apr.	May	June	July .	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1947	Max.	--	--	4.9	2.25	11.6	1.55	1.73	2.8	14	8.2	2.9	5.6	--
	Min.	--	--	0.02	0.03	0.09	0.05	0.06	0.04	0.09	0.03	0.04	0.05	--
	Mean	--	--	0.557	0.360	1.47	0.405	0.400	0.441	1.44	0.427	0.462	0.844	--
	Total	--	--	14.5	10.8	45.6	12.2	12.4	13.7	43.2	13.2	13.9	26.2	--
1948	Max.	41	4.2	5.3	25	5	1.99	2.15	2.65	6.2	2.6	1.83	7.1	41
	Min.	0.04	0.04	0.07	0.1	0.1	0.05	0.09	0.07	0.04	0.06	0.09	0.28	0.04
	Mean	2.93	0.584	0.779	2.34	0.754	0.294	0.661	0.553	0.614	0.510	0.503	1.34	0.991
	Total	90.7	16.9	24.2	70.2	23.4	8.82	20.5	17.1	18.4	15.8	15.1	41.7	365
1949	Max.	10	13.1	5	3.9	1.85	2.1	4.1	2.8	0.81	1.71	3.4	2.65	13.1
	Min.	0.11	0.04	0.03	0.08	0.03	0.03	0.10	0.12	0.03	0.02	0.04	0.05	0.02
	Mean	1.09	0.599	0.408	0.643	0.152	0.193	0.858	0.572	0.102	0.211	0.502	0.529	0.489
	Total	33.8	16.8	12.6	19.3	4.71	5.78	26.6	17.7	3.05	6.53	15.0	16.4	178
1950	Max.	9.6	5.8	6.6	9.0	2.4	1.14	2.4	16.5	1.37	1.86	19.6	10.1	19.6
	Min.	0.04	0.03	0.05	0.14	0.16	0.06	0.06	0.06	0.02	0.02	0.03	0.09	0.02
	Mean	0.819	0.680	0.616	1.55	0.648	0.292	0.676	1.25	.189	.270	2.89	1.71	0.966
	Total	25.4	19.0	19.1	46.6	20.1	8.76	20.96	38.85	5.68	8.38	86.81	52.99	353
1951	Max.	11.7	6.8	22.5	2.55	2.55	0.62	2.45	8.2	2.9	6.2	6.1	8.8	22.5
	Min.	0.08	0.04	0.10	0.07	0.04	0.03	0.03	0.09	0.04	0.05	0.11	0.09	0.03
	Mean	1.24	0.778	3.17	0.557	0.442	0.145	0.477	1.16	0.281	0.715	0.644	0.882	0.879
	Total	38.36	21.77	98.22	16.71	13.71	4.35	14.78	35.82	8.43	22.16	19.33	27.33	321

Table 7. MONTHLY AND ANNUAL STREAMFLOW AT STATIONS WITH RECORDS OF 10 YEARS OR MORE *(continued)*

II-79 PUNAULA STREAM NEAR PUKOO (Continued)

Year		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1952	Max.	25	8.0	4.2	1.70	5.0	2.85	9.5	2.65	3.6	7.1	20	6.1	25
	Min.	0.07	0.05	0.11	0.08	0.06	0.06	0.14	0.07	0.04	0.05	0.10	0.09	0.04
	Mean	1.52	0.568	0.926	0.383	0.445	0.983	1.05	0.390	0.401	1.48	1.65	0.999	0.902
	Total	47.22	16.46	28.70	11.49	13.78	29.48	32.66	12.08	12.04	45.88	49.40	30.97	330
1953	Max.	0.31	4.9	2.45	7.3	5.7	3.3	2.8[e]	3.5	2.5	4.5	4.7	5.1	7.3
	Min.	0.02	0.02	0.08	0.02	0.12	0.07	0.07	0.05	0.02	0.03	0.03	0.08	0.02
	Mean	0.055	0.414	0.583	0.384	0.799	0.635	0.507	0.608	0.142	0.388	0.526	0.673	0.477
	Total	1.69	11.58	18.07	11.52	24.77	19.04	15.72	18.85	4.27	12.03	15.77	20.87	174
1954	Max.	3.4	2.55	5.5	3.05	3.15	5.0	13.0	7.8	2.85	2.0	9.5	8.3	13.0
	Min.	0.02	0.02	0.08	0.04	0.06	0.14	0.24	0.22	0.07	0.04	0.02	0.16	0.02
	Mean	0.339	0.329	1.05	0.368	0.741	0.705	1.62	1.32	0.438	0.247	0.494	1.91	0.803
	Total	10.52	9.21	32.42	11.04	22.98	21.15	50.17	40.78	13.13	7.65	14.81	59.12	293
1955	Max.	6.2	7.8	5.5	1.62	2.55	1.98	7.9	6.2	3.25	2.85	20.5	39	39
	Min.	0.11	0.24	0.09	0.03	0.04	0.07	0.09	0.16	0.06	0.04	0.03	0.03	0.03
	Mean	0.636	1.92	0.854	0.256	0.465	0.394	1.04	1.16	0.384	0.377	1.74	3.05	1.02
	Total	19.73	53.75	26.47	7.68	14.42	11.81	32.11	35.96	11.52	11.68	52.09	94.68	372
1956	Max.	10.1	6.6	3.2	7.9	4.3	3.85	2.55	4.6	12.0	14.2	5.7	1.29	14.2
	Min.	0.05	0.08	0.09	0.15	0.08	0.21	0.11	0.12	0.09	0.11	0.05	0.03	0.03
	Mean	0.710	1.37	0.569	0.757	0.969	1.19	0.765	0.955	0.982	1.26	0.687	0.199	0.864
	Total	22.00	39.69	17.65	22.72	30.05	35.59	23.73	29.60	29.45	39.04	20.62	6.17	316
1957	Max.	2.35	5.5	3.4	18.2	3.1	1.57	2.75	8.5	3.25	2.3	11.1	9.0	18.2
	Min.	0.03	0.06	0.06	0.06	0.05	0.05	0.11	0.18	0.06	0.04	0.09	0.32	0.03
	Mean	0.383	1.11	0.411	1.35	0.461	0.193	0.502	1.25	0.265	0.247	1.76	1.64	0.794
	Total	11.86	31.09	12.73	40.48	14.28	5.80	15.56	38.67	7.96	7.66	52.65	50.91	290
1958	Max.	4.9	11.4	10.3	1.48	3.05	2.55	5.1	12.5	1.72	7.0	6.1	4.8	12.5
	Min.	0.05	0.03	0.05	0.04	0.05	0.09	0.16	0.18	0.09	0.08	0.08	0.06	0.03
	Mean	0.447	0.636	0.754	0.141	0.937	0.763	1.79	1.89	0.353	1.41	0.638	0.873	0.893
	Total	13.85	17.82	23.37	4.24	29.06	22.88	55.59	58.51	10.60	43.76	19.15	27.05	325.88
1959	Max.	11.7	4.6	8.3	7.7	1.62	1.37	2.12	3.35	3.92	2.50	6.29	2.88	11.7
	Min.	0.11	0.10	0.07	0.11	0.08	0.05	0.05	0.06	0.08	0.05	0.10	0.15	0.05
	Mean	1.29	0.774	0.709	1.13	0.503	0.202	0.264	0.458	0.735	0.369	0.840	0.862	0.678
	Total	39.84	21.66	21.97	33.88	15.58	6.06	8.21	14.22	22.07	11.46	25.20	26.73	246.88

II-81 KAWELA STREAM NEAR KAMALO

Year		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1946	Max.	--	--	--	--	--	--	--	--	--	20.5	17.7	30.5	--
	Min.	--	--	--	--	--	--	--	--	--	0	0	0	--
	Mean	--	--	--	--	--	--	--	--	--	1.78	2.42	5.43	--
	Total	--	--	--	--	--	--	--	--	--	55.2	72.7	168	--

1947	Max.	24.5	12.9	7.6	10.9	29	8.8	5.5	13.5	8.2	29	6.6	18.5	29
	Min.	0	0	0	0	0	0	0	0	0	0	0	0	0
	Mean	1.55	0.712	1.34	1.11	3.49	1.41	0.712	1.20	1.16	1.70	0.749	3.10	1.53
	Total	48.1	20.0	41.6	33.2	108	42.4	22.1	37.2	34.7	52.6	22.5	96.1	558
1948	Max	130	16.4	12.3	15.2	8.5	4.8	9.3	4.9	6.0	5.0	5.8	18.7	130
	Min.	0	0	0	0	0	0	0	0	0	0	0	0.70	0
	Mean	10.4	1.23	3.29	1.96	1.77	0.711	1.77	0.360	0.485	1.44	1.75	5.72	2.60
	Total	323	35.7	102	58.8	55.0	21.3	54.9	11.2	14.5	44.6	52.4	177	950
1949	Max.	23	27.5	10.0	6.6	2.9	3.5	8.3	3.5	0.68	0.90	8.4	4.2	27.5
	Min.	0	0	00	0.	0	0	0	0	0	0	0	0	0
	Mean	2.48	1.44	1.23	1.56	0.333	0.605	1.79	0.860	0.071	0,163	1.58	0.937	1.09
	Total	77.0	40.3	38.1	46.8	10.3	18.2	55.6	26.7	2.12	5.06	47.2	29.0	396
1950	Max.	25	6.7	16.6	12.8	4.8	4.0	5.0	52	0.51	3.2	33	22	52
	Min.	0	0	0	0	0	0	0	0	0	0	0	0	0
	Mean	2.51	1.05	1.81	2.80	1.37	0.688	0.992	3.35	0.056	0.631	5.21	3.34	1.99
	Total	77.9	29.4	56.0	84.0	42.4	20.6	30.75	104.00	1.67	19.55	156.16	103.54	726
1951	Max.	9.2	6.0	43	2.6	2.6	2.15	2.2	10	2.75	16.1	8.2	10.6	43
	Min.	0	0	0	0	0	0	0	0	0	0	0	0	0
	Mean	1.08	1.16	6.43	0.380	0.320	0.388	0.265	0.929	0.245	1.58	1.23	1.52	1.30
	Total	33.53	32.56	199.48	11.39	9.91	11.64	8.21	28.29	7.36	49.08	36.94	47.20	475
1952	Max.	37	11.0	5.7	5.4	4.8	7.0	5.0	3.65	1.98	14.3	10.6	7.7	37
	Min.	0	0	0	0	0	0	0	0	0	0	0	0	0
	Mean	2.88	0.589	1.44	0.720	0.493	1.48	0.618	0.356	0.216	1.50	1.55	1.47	1.11
	Total	89.34	17.08	44.75	21.59	15.28	44.28	19.15	11.05	6.49	46.62	46.41	45.63	408
1953	Max.	4.5	4.0	4.8	1.85	11.3	6.7	3.5[a]	8.7	--	5.5	7.5	10.5	11.3
	Min.	0	0	0	0	0	0	0	0	--	0	0	0	0
	Mean	0.295	0.398	0.714	0.168	1.86	1.27	0.701	0.699	0	0.264	1.10	1.83	0.779
	Total	9.14	11.14	22.13	5.04	57.74	37.98	21.74	21.66	0	8.18	32.85	56.86	284
1954	Max.	16.9	10.1	12.8	9.2	6.6	14.2	9.6	7.5	4.1	3.95	19.8	23.5	23.5
	Min.	0	0	0	0	0	0	0.04	0.09	0	0	0	0	0
	Mean	0.663	0.941	2.18	0.740	1.03	1.67	3.10	1.89	0.418	0.400	0.855	5.44	1.62
	Total	20.56	26.36	67.46	22.21	31.92	50.00	95.97	58.72	12.53	12.41	25.65	168.52	593
1955	Max.	11.5	12.4	13.9	5.3	4.1	6.6	10.4	7.3	4.7	6.9	29	52	52
	Min.	0	0.32	0	0	0.04	0	0	0	0	0	0	0	0
	Mean	1.55	5.23	2.22	1.46	1.10	0.967	1.85	1.65	0.435	0.695	2.42	3.25	1.88
	Total	47.91	146.47	68.69	43.87	34.22	29	57.49	51.12	13.04	21.54	72.48	100.88	687
1956	Max.	30	14.0	4.4	16.0	3.75	13.8	2.95	10.1	0.02	11.1	23.5	4.3	30
	Min.	0	0	0	0	0	0.10	0	0	0	0	0	0	0
	Mean	2.11	3.82	0.762	1.39	0.966	2.70	0.449	1.35	0.001	0.966	1.17	0.559	1.34
	Total	65.26	110.88	23.62	41.72	29.94	81.08	13.91	41.93	0.02	29.96	35.00	17.34	491
1957	Max.	8.7	9.7	5.3	10.0	3.35	3.5	3.7	18.3	2.9	1.12	15.9	23	23
	Min.	0	0	0	0	0	0	0	0	0	0	0	0.81	0
	Mean	1.76	2.10	0.857	1.65	0.325	0.315	0.886	2.98	0.243	0.059	2.24	4.55	1.50
	Total	54.64	58.92	26.56	49.50	10.06	9.45	27.47	92.48	7.29	1.83	67.19	141.00	546
1958	Max.	15.3	21	22	1.18	9.3	5.1	17.4	32	4.5	19.7	13.7	17.5	32
	Min.	0	0	0	0	0	0	0	0	0	0	0	0	0
	Mean	1.63	1.42	3.08	0.230	2.38	1.33	3.11	4.86	0.722	2.68	1.95	2.95	2.21
	Total	50.39	39.68	95.42	6.91	73.90	39.80	96.37	150.69	21.65	83.07	58.50	91.44	807.82
1959	Max.	43	17.2	5.9	30	11	3.85	3.75	9.86	1.29	4.28	5.39	30.9	43
	Min.	0	0	0	0	0	0	0	0	0	0	0	0	0
	Mean	3.39	2.00	0.774	2.43	1.47	0.393	0.615	1.30	0.248	0.175	0.846	2.81	1.37
	Total	104.94	55.86	23.98	72.90	45.43	11.80	19.08	40.35	7.45	5.42	25.37	87.15	497.73

Table 7. MONTHLY AND ANNUAL STREAMFLOW AT STATIONS WITH RECORDS OF 10 YEARS OR MORE *(continued)*

III-92 WAIALALA SPRINGS NEAR KALAE

Year		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	ANNUAL
1940	Max.	--	--	--	--	--	--	--	--	0.027	0.026	0.035	0.033	--
	Min.	--	--	--	--	--	--	--	--	0.024	0.024	0.019	0.018	--
	Mean	--	--	--	--	--	--	--	--	0.025	0.024	0.023	0.026	--
	Total	--	--	--	--	--	--	--	--	0.626	0.747	0.702	0.821	--
1941	Max.	0.034	0.034	0.056	0.038	0.033	0.031	0.031	0.028	0.025	0.096	0.028	0.028	0.096
	Min.	0.031	0.031	0.030	0.032	0.029	0.029	0.028	0.025	0.022	0.021	0.024	0.024	0.021
	Mean	0.033	0.032	0.036	0.035	0.031	0.030	0.029	0.026	0.023	0.029	0.026	0.026	0.030
	Total	1.02	0.889	1.11	1.04	0.962	0.905	0.905	0.820	0.696	0.910	0.771	0.795	10.8
1942	Max.	0.029	0.034	0.275	0.082	0.070	0.053	0.040	0.036	0.029	0.084	0.030	0.045	0.275
	Min.	0.027	0.027	0.029	0.070	0.054	0.051	0.034	0.029	0.026	0.024	0.023	0.021	0.021
	Mean	0.027	0.029	0.096	0.073	0.061	0.048	0.037	0.033	0.027	0.031	0.026	0.027	0.043
	Total	0.851	0.810	2.97	2.18	1.90	1.42	1.14	1.02	0.804	0.958	0.770	0.833	15.7
1943	Max.	0.047	0.043	0.042	0.034	0.031	0.031	0.032	0.026	0.024	0.022	0.020	0.026	0.047
	Min.	0.024	0.036	0.020	0.020	0.027	0.026	0.027	0.024	0.021	0.020	0.018	0.017	0.017
	Mean	0.037	0.038	0.031	0.030	0.029	0.029	0.029	0.025	0.023	0.021	0.019	0.018	0.027
	Total	1.15	1.07	0.954	0.886	0.885	0.865	0.893	0.788	0.685	0.650	0.566	0.562	9.95
1944	Max.	0.019	0.017	0.030	0.064	0.024	0.025	0.023	0.022	0.020	0.021	0.020	0.018	0.064
	Min.	0.016	0.012	0.012	0.021	0.024	0.023	0.022	0.019	0.018	0.017	0.015	0.015	0.012
	Mean	0.017	0.015	0.016	0.029	0.024	0.023	0.023	0.021	0.019	0.018	0.017	0.015	0.020
	Total	0.532	0.430	0.501	0.873	0.744	0.700	0.711	0.643	0.567	0.572	0.509	0.477	7.26
1945	Max.	0.014	0.013	0.016	0.057	0.012	0.011	0.009	0.006	0.012	0.012	0.007	0.005	0.057
	Min.	0.012	0.012	0.012	0.012	0.010	0.008	0.005	0.004	0.004	0.007	0.004	0.004	0.004
	Mean	0.013	0.013	0.012	0.020	0.011	0.010	0.007	0.004	0.006	0.010	0.006	0.004	0.010
	Total	0.404	0.355	0.387	0.598	0.334	0.285	0.205	0.138	0.166	0.324	0.172	0.138	3.51
1946	Max.	0.005	0.015	0.011	0.009	0.009	0.008	0.008	0.008	0.007	0.008	0.006	0.014	0.015
	Min.	0.003	0.003	0.009	0.009	0.005	0.005	0.006	0.007	0.007	0.005	0.005	0.005	0.003
	Mean	0.004	0.004	0.010	0.009	0.007	0.007	0.007	0.008	0.007	0.006	0.005	0.007	0.007
	Total	0.139	0.124	0.306	0.270	0.220	0.196	0.215	0.245	0.210	0.199	0.151	0.202	2.48
1947	Max.	0.005	0.009	0.020	0.013	0.024	0.021	0.019	0.016	0.014	0.016	0.013	0.030	0.030
	Min.	0.002	0.003	0.003	0.012	0.012	0.019	0.016	0.014	0.012	0.012	0.012	0.011	0.002
	Mean	0.003	0.005	0.009	0.012	0.019	0.020	0.018	0.015	0.012	0.012	0.012	0.016	0.013
	Total	0.098	0.153	0.266	0.366	0.599	0.612	0.555	0.452	0.375	0.384	0.363	0.482	4.70
1948	Max.	0.029	0.034	0.033	0.027	0.024	0.017	0.017	0.019	0.009	0.009	0.015	0.017	0.034
	Min.	0.022	0.018	0.019	0.019	0.017	0.016	0.016	0.009	0.009	0.009	0.009	0.012	0.009
	Mean	0.026	0.021	0.024	0.024	0.022	0.016	0.017	0.015	0.009	0.009	0.013	0.015	0.018
	Total	0.793	0.614	0.747	0.706	0.697	0.495	0.516	0.456	0.270	0.279	0.403	0.454	6.43
1949	Max.	0.017	0.009	0.014	0.013	0.015	0.008	0.013	0.013	0.012	0.010	0.009	0.009	0.017
	Min.	0.004	0.003	0.002	0.012	0.008	0.006	0.007	0.012	0.010	0.009	0.009	0.008	0.002
	Mean	0.012	0.004	0.007	0.013	0.012	0.007	0.011	0.013	0.011	0.010	0.009	0.008	0.010
	Total	0.376	0.120	0.221	0.380	0.385	0.208	0.352	0.393	0.326	0.301	0.270	0.263	3.60

1950	Max.	0.015	0.012	0.015	0.018	0.021	0.020	--	0.019	0.018	0.017	0.020	0.019	0.021
	Min.	0.009	0.005	0.007	0.010	0.018	0.018	--	0.015	0.013	0.015	0.010	0.006	0.005
	Mean	0.010	0.009	0.010	0.012	0.020	0.019	0.018	0.017	0.016	0.017	0.015	0.014	0.015
	Total	0.306	0.259	0.298	0.375	0.618	0.570	0.558	0.531	0.465	0.515	0.445	0.444	5.38
1951	Max.	0.034	0.029	0.023	0.020	0.020	0.015	0.017	0.015	0.015	0.017	0.013	0.018	0.034
	Min.	0.005	0.023	0.011	0.007	0.016	0.013	0.015	0.013	0.013	0.012	0.012	0.012	0.005
	Mean	0.024	0.026	0.018	0.014	0.018	0.014	0.016	0.014	0.014	0.013	0.012	0.013	0.016
	Total	0.758	0.723	0.569	0.411	0.566	0.431	0.499	0.439	0.419	0.408	0.372	0.392	5.99
1952	Max.	0.018	0.017	0.013	--	0.012	0.012	0.013	0.013	0.012	0.024	0.017	0.015	0.024
	Min.	0.012	0.012	0.012	--	0.011	0.010	0.010	0.010	0.011	0.011	0.011	0.010	0.010
	Mean	0.012	0.013	0.012	0.012	0.012	0.011	0.010	0.011	0.012	0.013	0.012	0.012	0.012
	Total	0.384	0.380	0.374	0.360	0.371	0.332	0.325	0.346	0.356	0.411	0.369	0.381	4.39
1953	Max.	0.010	0.011	0.012	0.013	0.019	--	0.011	0.011	0.011	0.012	0.016	0.013	0.019
	Min.	0.009	0.009	0.011	0.012	0.010	--	0.010	0.010	0.010	0.009	0.012	0.010	0.009
	Mean	0.009	0.010	0.012	0.012	0.012	0.010	0.010	0.010	0.010	0.010	0.013	0.010	0.011
	Total	0.281	0.278	0.369	0.364	0.366	0.300	0.313	0.319	0.305	0.318	0.376	0.325	3.91
1954	Max.	--	0.009	0.010	0.011	0.010	0.009	0.012	0.010	--	--	0.014	0.021	0.021
	Min.	--	0.008	0.008	0.008	0.008	0.008	0.008	0.009	--	--	0.009	0.011	0.008
	Mean	0.009	0.009	0.009	0.008	0.009	0.008	0.009	0.009	0.010	0.010	0.010	0.013	0.009
	Total	0.279	0.241	0.270	0.249	0.279	0.241	0.272	0.284	0.300	0.310	0.303	0.409	3.44
1955	Max.	0.019	0.022	0.020	0.020	0.019	0.017	0.016	0.014	0.012	0.011	0.012	0.011	0.022
	Min.	0.013	0.018	0.019	0.019	0.016	0.015	0.013	0.012	0.010	0.009	0.009	0.002	0.002
	Mean	0.015	0.020	0.019	0.019	0.017	0.017	0.014	0.012	0.011	0.010	0.009	0.009	0.014
	Total	0.473	0.558	0.595	0.571	0.542	0.496	0.419	0.386	0.336	0.318	0.281	0.275	5.25
1956	Max.	0.013	0.012	0.012	0.012	0.013	0.008	--	0.008	0.013	0.011	0.011	0.011	0.013
	Min.	0.009	0.001	0.010	0.009	0.008	0.007	--	0.006	0.010	0.010	0.009	0.009	0.001
	Mean	0.010	0.006	0.011	0.010	0.010	0.007	0.007	0.006	0.012	0.010	0.010	0.009	0.009
	Total	0.297	0.167	0.328	0.315	0.324	0.220	0.217	0.188	0.345	0.319	0.294	0.291	3.31
1957	Max.	0.011	--	0.011	0.012	0.012	--	0.011	0.012	0.010	--	0.013	0.013	0.013
	Min.	0.009	--	0.010	0.011	0.011	--	0.009	0.010	0.009	--	0.009	0.010	0.009
	Mean	0.010	0.010	0.010	0.011	0.011	0.011	0.010	0.010	0.010	0.010	0.010	0.012	0.010
	Total	0.308	0.280	0.313	0.332	0.347	0.330	0.314	0.315	0.285	0.310	0.309	0.365	3.81
1958	Max.	0.014	0.016	0.020	0.017	0.016	0.016	0.015	0.020	0.015	0.014	0.013	0.015	0.020
	Min.	0.013	0.013	0.005	0.016	0.015	0.014	0.013	0.014	0.014	0.013	0.012	0.012	0.005
	Mean	0.013	0.013	0.017	0.016	0.015	0.015	0.014	0.015	0.014	0.013	0.012	0.013	0.014
	Total	0.405	0.370	0.513	0.484	0.479	0.447	0.428	0.468	0.430	0.417	0.363	0.416	5.220
1959	Max.	0.014	0.014	0.014	0.017	0.014	0.013	0.013	0.012	0.011	0.011	0.011	0.009	0.017
	Min.	0.002	0.002	0.013	0.003	0.013	0.013	0.012	0.011	0.011	0.010	0.009	0.009	0.002
	Mean	0.007	0.009	0.014	0.013	0.013	0.013	0.013	0.012	0.011	0.011	0.010	0.009	0.011
	Total	0.204	0.240	0.425	0.385	0.405	0.390	0.400	0.369	0.330	0.330	0.301	0.279	4.058

[a] No gage-height record; discharge estimated on basis of records for Waikolu Stream.
[e] Discharge estimated on basis of records for nearby stations.

Table 8. RECORDS OF WELLS AND TEST HOLES

USGS No.	Name	District	Hydrog. area & subarea	Latitude Longitude ° ' "	Owner	Date drilled	Elev. in feet	Depth in feet	Head in feet	Chlorides (ppm)	Use	Source of data
1		Kaluakoi	IV-2	21 06 48 157 18 18	Molokai Ranch		8	10		1,558	Abandoned	c
2		Kaluakoi	IV-2	21 06 48 157 18 09	Molokai Ranch		10	30		Sea Water	Abandoned	c
3		Kaluakoi	IV-3	21 10 49 157 15 08	Molokai Ranch		35	40		4,187	Abandoned	c
4	Halena	Kaluakoi	IV-1	21 05 36 157 14 00	Molokai Ranch		8	11		1,890	Abandoned	c
5	Moomomi	Kaluakoi	III-3	21 11 49 157 09 50	Molokai Ranch		29	31		4,840	Abandoned	c
6	Kolo	Kaluakoi	IV-1	21 05 42 157 11 16	Molokai Ranch		7	9		2,200	Abandoned	c
7	Waiakane	Kaluakoi	IV-1	21 05 51 157 10 05	Molokai Ranch		11	15		2,100	Abandoned	c
8	Kukuku	Kaluakoi	IV-1	21 05 48 157 09 16	Molokai Ranch		3	6		2,420	Abandoned	c
9	Punakou	Kaluakoi	IV-1	21 06 01 157 08 11	Molokai Ranch		8	9		1,620	Abandoned	c
10	Iloli	Iloli	III-2	21 06 29 157 07 02	Molokai Ranch		1	6		993	Abandoned	c
11	Puu Pili	Kaluakoi	III-2	21 07 07 157 06 22	Molokai Ranch		23	25		799	Abandoned	c
12	Palaau	Naiwa	III-1	21 07 03 157 05 34	H.H.C.		6	7		610	Abandoned	c
13	Ooia	Naiwa	III-1	21 06 31 157 04 28	Molokai Ranch		2	4		932	Abandoned	c
14	Oliwai	Naiwa	III-1	21 06 14 157 03 22	Molokai Ranch		15	16		639	Abandoned	c
14-1	Helm	Kalamaula	III-1	21 06 30 157 03 19	H.H.C.		15	15			Irr. & Dom.	b
14-2	Ne	Kalamaula	III-1	21 06 38 157 03 08	H.H.C.	1950	12	14			Stk., Irr. & Dom.	b
14-3	Lin Kee	Kalamaula	III-1	21 05 57 157 01 53	H.H.C.	1957	12	13			Unused	b
15	Kalamaula	Kalamaula	III-1	21 05 54 157 01 53	H.H.C.		5	15		570	Unused	c
16		Kaunakakai	III-1	21 05 53 157 01 36			18	20		769	Abandoned	c
17	Hotel	Kaunakakai	III-1	21 05 39 157 01 23	Ethel Ing		8	11		1,190	Unused	c
18		Kapaakea	III-1	21 05 16 157 00 46			10	14	1	710	Unused	c

19		Kapaakea	III-1	21 05 11 157 00 36	James D. Lewis, Jr.		2	4	1.24	970	Unused	c
20		Kapaakea	III-1	21 05 04 157 00 27	James D. Lewis, Jr.		2	3		678	Stk.	c
21		Kamiloloa	III-1	21 05 02 157 00 12			2	4.5		610	Irr.	c
22		Kamiloloa	III-1	21 05 08 157 00 12			18	18.7	1.25	620	Stk.	c
23		Kamiloloa	II-2	20 04 59 156 59 56			8	8.4	1.17	760	Irr.	c
24		Kamiloloa	II-2	21 04 55 156 59 42	H.H.C.		9	10		1,100	Abandoned	c
25		Kamiloloa	II-2	21 04 53 156 59 38	H.H.C.		10	11	1.17	980	Abandoned	c
26		Kamiloloa	II-2	21 04 51 156 59 25	H.H.C.		14	14	1.16	2,900	Abandoned	c
27		Makakupaia	II-2	21 04 30 156 58 44	Molokai Ranch		12	13	1.14	1,210	Abandoned	c
28	Kaokini	Kawela	II-2	21 04 24 156 58 11	Molokai Ranch		14	15	1.39	230	Stk.	c
28-1	Tejero	Kawela	II-2	21 04 20 156 58 06	Molokai Ranch	1957	12	12	4.5		Irr. & Dom.	b
29		Kawela	II-2	21 04 17 156 57 42	Molokai Ranch		9	10		232	Stk.	c
30		Kawela	II-2	21 04 14 156 56 56	Molokai Ranch		17	19	1.77	34	Dom.	c
30-1	Misaki	Kawela	II-2	21 04 08 156 56 50	Evelyn Naehu, etc.	1926	15	14	4		Irr., Stk. & Dom.	
30-2	Briola	Kawela	II-2	21 04 11 156 56 47	Semlick, Iaea, Raphell, etc.		15	14	4		Irr. & Dom.	b
31		Kawela	II-2	21 04 06 156 56 52	Molokai Ranch		14	15		32	Irr. & Dom.	c
31-1	Kokuba	Kawela	II-2	21 04 05 156 56 45	Edwin Naehu, etc.	1948	16	15	5		Dom. & Stk.	b
31-2	Kim Chou	Kawela	II-2	21 04 08 156 56 47	Semlick, Iaea, Raphell, etc.		15	14	5		Dom.	b
31-3	Antoku	Kawela	II-2	21 04 01 156 56 29	Molokai Ranch	1955	17	10	10		Irr. & Dom.	b
32	Panit	Makolelau	II-2	21 03 49 156 55 59	Foster Est.	1945	8	10		535	Stk. & Dom.	b,c
33		Makolelau	II-2	21 03 52 156 55 41	Foster Est.		17	18		400	Stk.	c
34		Makolelau	II-2	21 03 48 156 55 36	Foster Est.		4	5		420	Stk.	c
34-1	Foster	Makolelau	II-2	21 03 47 156 55 16	Foster Est.		28	33	1		Stk. & Dom.	
35		Kapuokoolua	II-2	21 03 38 156 54 53	Otto Meyer		12	14		445	Abandoned	c

Table 8. RECORDS OF WELLS AND TEST HOLES *(continued)*

USGS No.	Name	District	Hydrog. area & subarea	Latitude Longitude ° ' "	Owner	Date drilled	Elev. in feet	Depth in feet	Head in feet	Chlorides (ppm)	Use	Source of data
36	Meyer	Kapuaokoolau	II-2	21 03 41 156 54 34	Edith B. Meyer	1928*	11	14		310	Stk. & Dom.	a,c
37	Naehu	Kamalo	II-2	21 03 32 156 53 53	Bishop Est.		8	8			Stk.	c
38	Rin	Kamalo	II-2	21 03 31 156 53 41	Bishop Est.	1940	19	20	3		Stk. & Dom.	b,c
39	Izumigawa	Kamalo	II-2	21 03 32 156 53 21	Bishop Est.		27	27			Irr. & Stk.	b,c
40		Kamalo	II-1	21 03 21 156 53 21	Bishop Est.		19	21		230	Irr.	c
40-1	Naehu	Kamalo	II-2	21 03 29 156 53 11	Bishop Est.		20	23			Stk.	b
41	Burrows	Kamalo	II-2	21 03 14 156 53 08	Bishop Est.	1920	10	14			Irr.	c
41-1	Fujii	Kamalo	II-2	21 03 13 156 53 06	Bishop Est.	1952	11	18			Irr.	b
41-2	Asato	Kamalo	II-2	21 03 13 156 53 04	Bishop Est.	1954	7	9			Irr. & Stk.	b
41-3	Inoue	Kapulei	II-1	21 03 12 156 52 42	Hugh McCorriston	1926	20	18	5		Irr. & Dom.	b
41-4	Sambahon	Kapulei	II-1	21 03 14 156 52 43	Kamakana		14	14			Irr. & Dom.	
42	County Kamalo	Wawaia	II-1	21 03 26 156 52 29	Maui County		43	40		78	Dom.	c
43		Puaahala	II-1	21 03 28 156 52 11			16	19		610	Irr.	c
44		Puaahala	II-1	21 03 22 156 52 12	Kamakana		8	8		47	Irr. & Dom.	c
45	McGuire	Kaamola	II-1	21 03 39 156 51 10	Bishop Est.		6	6.5	1.5	82	Dom. & Stk.	b,c
46		Keawanui	II-1	21 03 38 156 50 49			19	20		52	Irr. & Dom.	c
47		West Ohia	II-1	21 03 36 156 50 47	Bishop Est.		15	16		32	Irr.	c
48		East Ohia	II-1	21 03 42 156 50 36			23	27		70	Irr.	c
49		Manawai	II-1	21 03 36 156 50 30	Cornwell Freil		22	27			Irr. & Dom.	a,c
50		Ualapue	II-1	21 03 34 156 50 25	Julia M. Meyer		8	11		195	Irr.	c

50-1	Kapuni	Ualapue	II-1	21 03 38 156 50 14	Joseph Kapuni	1954	2	3			Irr.	a
50-2	Lalango	Ualapue	II-1	21 03 57 156 50 01	Elizabeth laea	1952	22	22	3		Irr. & Dom.	b
50-3	Iaea	Ualapue	II-1	21 03 57 156 49 58	I. Iaea	1954	21	20	5		Irr.	a
50-4	Domingo	Ualapue	II-1	21 03 56 156 49 56	State		20	20	4		Dom. & Irr.	b
51	Akasaka	Kaluaaha	II-1	21 04 09 156 49 30	H.P. Hustace	1939	22	24	0	155	Irr.	b,c
51-1	Fujimoto	Kaluaaha	II-1	21 04 11 156 49 28	Solomon Hennesey	1948	22	26			Irr. & Dom.	b
52		Kaluaaha	II-1	21 04 12 156 49 25	H.P. Hustace		23	27	1	148	Irr. & Dom.	a,c
53		Kaluaaha	II-1	21 04 13 156 49 21			19	22		122	Irr.	c
53-1	Hustace	Kaluaaha	II-1	21 04 16 156 49 16	H.P. Hustace	1928	22	26	4		Stk.	a
54		Mapulehu	II-1	21 04 17 156 49 09	Valdez		22	23		160	Irr.	c
54-1	Crane	Mapulehu	II-1	21 04 21 156 48 52	Crane		8	9			Abandoned	a
54-2	Matayoshi	Mapulehu	II-1	21 04 27 156 48 28	Cornwell Freil		21	20			Irr. & Dom.	b
55		Mapulehu	II-1	21 04 14 156 48 23	HSPA		5	11.5		131	Abandoned	c
55-1	Fukuchi	Pukoo	II-1	21 04 31 156 48 12	Tamotsu Fukuchi	1955	21	11.5	12		Irr., Stk. & Dom.	a
55-2	Gomez	Pukoo	II-1	21 04 34 156 48 06	Filipino Federation	1955	20	12	11		Irr. & Dom.	b
55-3	Felix	Pukoo	II-1	21 04 38 156 47 51	Aping Store		11	11	4		Irr. & Dom.	b
55-4	Tam	Pukoo	II-1	21 04 34 156 47 47	Helen Tam		7	7			Abandoned	b
56		Kainalu	II-1	21 05 32 156 46 33	Dunbar		20	20		44	Abandoned	b,c
57		Waialua	II-1	21 06 06 156 45 37			7	8		310	Irr.	c
58A	Izumigawa	Kapulei	II-1	21 03 08 156 52 46	Edith Austin, et al.		14	16		25	Dom.	c
58B		Kapulei	II-1	21 03 08 156 52 46	Edith Austin, et al.		15	17		22	Dom.	c
59		Kapulei	II-1	21 03 14 156 52 47	Edith Austin, et al.		15	16		23	Dom.	c
60	Colahara	Kapulei	II-1	21 03 08 156 52 40	George McCorriston	1955	12	16		34	Irr.	b,c

Table 8. RECORDS OF WELLS AND TEST HOLES *(continued)*

USGS No.	Name	District	Hydrog. area & subarea	Latitude Longitude ° ' "	Owner	Date drilled	Elev. in feet	Depth in feet	Head in feet	Chlorides (ppm)	Use	Source of data
S1	Conant-Kaunakakai	Kaunakakai	III-1	21 05 54 157 01 25	Molokai Ranch		28	27	1.25-2.00	520	Unused	c
S2	Kupa	Kaunakakai	III-1	21 05 38 157 01 02	Molokai Ranch		28	28	2.34	630	Irr.	c
S3	Kanoa	Kawela	II-2	21 04 23 156 57 48	Molokai Ranch		40	41	1.7	132	Unused	c
S4	Conant-Kawela	Kawela	II-2	21 04 18 156 57 03	Maui County		37.6	38		16	Dom.	a
S5	Breadfruit Tree	Kawela	II-2	21 04 13 156 56 56	Molokai Ranch	1926	30	34		26	Stk.	b,c
S6	Ualapue	Ualapue	II-1	21 04 03 156 50 04	Maui County		43.7	41.5		64	Dom.	a
S7	Mapulehu	Mapulehu	II-1	21 04 27 156 48 34	HSPA		50	50		67	Unused	c
S8	Mapulehu	Mapulehu	II-1	21 04 25 156 48 29	HSPA		20	22	2	38	Irr.	c
S9	Mapulehu	Punaula	II-1	21 04 28 156 48 24	HSPA		30	31		21	Irr.	b
T1		Hoolehua	III-2	21 09 20 157 05 26			398	415	3.9-6.2	624		c
T2		Kaunakakai	III-1	21 06 32 157 00 23			314	324	7.7-8.9	29		c
T3		Kaunakakai	III-1	21 06 04 157 01 03			51.5	55.5	2.5	255		c
T4		Kaunakakai	III-1	21 05 46 157 01 21			15.3	19.3	2.35	290		c
T5		Kamiloloa	II-2	21 05 03 156 59 47			12.2	13.4	1.19	925		c
T6		Kamiloloa	II-2	21 04 53 156 59 20			13.8	18.8	1.13	770		c
T7		Makakupaia	II-2	21 04 39 156 59 01			17	17.5	1.1	1,300		c
T8		Kawela	II-2	21 04 27 156 58 21			6.4	7.4	1.22	420		c
T9		Kawela	II-2	21 05 42 157 05 20			10.5	14.0	1.96	144		c
D1		Kaluakoi	IV-2	21 10 22 157 11 52	Molokai Ranch		503	540	5.65	2,900	Abandoned	c
D2		Hoolehua	III-2	21 07 38 157 06 18	H.H.C.		125	140		1,060	Abandoned	c
D3		Naiwa	III-2	21 07 08 157 05 48	Molokai Ranch		22	74		893	Abandoned	c

D4		Naiwa	III-1	21 07 08 157 05 28	Molokai Ranch	23	73		893	Abandoned	c
D5		Naiwa	III-1	21 07 02 157 05 20	Molokai Ranch	22	250		Sea Water	Abandoned	c
D6		Naiwa	III-1	21 07 08 157 04 37	Molokai Ranch	50	125		Sea Water	Abandoned	c
D7		Naiwa	III-1	21 06 47 157 03 42	Molokai Ranch	37	70		935	Abandoned	c
D8		Kalamaula	III-1	21 06 18 157 02 41	H.H.C.	20	20		1,060	Abandoned	c
D9		Kalamaula	III-1	21 06 15 157 02 36	H.H.C.	27	343		Sea Water	Abandoned	c
D10(A-N)		Kaunakakai	III-1	21 05 59 157 02 36	Molokai Ranch	22-35	60-500		119-1,000	Abandoned	c
D11(A-C)		Kaunakakai	III-1	21 06 06 157 01 20	Molokai Ranch	63	63		769	Abandoned	c
D12		Kapaakea	III-1	21 05 19 157 00 41	H.H.C.	28	60		727	Abandoned	c
D13(A-D)		Kawela	II-2	21 04 08 156 56 25		12-20	46-5.6			Abandoned	c
D14(A-E)		Kawela	II-2	21 04 09 156 56 18		12-18	58-7.5			Abandoned	c
D15	Kualapuu	Naiwa	III-2	21 09 29 157 02 18	C.P.C.	889	963	10	374	Irr.	c
D16	Kauluwai	Kalamaula	III-1	21 08 57 157 01 10	H.H.C.	1,005	1,095		67	Unused	c
D17	Kalualohe	Kahanui	III-1	21 09 05 157 01 30	C.P.C.	981	1,062	11	60	Irr.	c

WELL NUMBERS

D = Drilled Well
S = Shaft (Maui-type well)
T = Test Hole
(without letter) = Dug Well

DATE DRILLED

* Approximate

USE

Irr. - Irrigation
Dom. - Domestic
Stk. - Stock

SOURCE OF DATA

a Owner
b Tenant
c Bulletin 11, 1947

Abbreviation	Name
CPC	California Packing Corporation
HHC	Hawaiian Homes Commission (now Department of Hawaiian Home Lands)
HSPA	Hawaiian Sugar Planters' Association

Table 9. RECORDS OF WATER LEVEL and CHLORIDE CONTENT

CONANT WELL

Index map No. M86. 0.5 mile inland from Kaunakakai. Latitude 21° 05' 54", longitude 157° 01' 25". Depth 27 feet. Land-surface datum is 28.00 feet above mean sea level.

Year	Date	Water level	Chloride in ppm	Date	Water level	Chloride in ppm	Date	Water level	Chloride in ppm	Date	Water level	Chloride in ppm
	Jan. 15	1.67		Apr. 15	1.58		July 15	1.50		Oct. 15	1.58	
1940	Feb. 15	1.75		May 15	1.42		Aug. 15	1.42		Nov. 15	1.67	
	Mar. 15	1.50		June 15	1.67		Sep. 15	1.33		Dec. 15	1.50	
	Jan. 15	1.67		Apr. 15	1.50		July 15	1.42		Oct. 15	1.58	
1941	Feb. 15	1.67		May 16	1.58		Aug. 15	1.50		Nov. 15	1.42	
	Mar. 15	1.58		June 15	1.58		Sep. 15	1.58		Dec. 15	1.58	
	Jan. 15	1.67		Apr. 15	1.50		July 15	1.00		Oct. 15	1.00	
1942	Feb. 15	1.50		May 15	1.50		Aug. 15	1.25		Nov. 15	0.92	
	Mar. 15	1.58		June 15	0.92		Sep. 15	1.17		Dec. 15	0.75	
	Jan. 15	0.75		Apr. 15	0.83		July 15	0.83		Oct. 15	0.92	
1943	Feb. 15	0.92		May 15	1.08		Aug. 15	0.83		Nov. 15	0.92	
	Mar. 15	0.75		June 15	1.00		Sep. 15	1.00		Dec. 15	0.83	
	Jan. 15	0.83		Apr. 15	1.00		July 15	0.83		Oct. 15	0.92	
1944	Feb. 15	0.92		May 15	0.92		Aug. 15	0.83		Nov. 15	0.92	
	Mar. 15	0.92		June 15	0.75		Sep. 15	0.75		Dec. 15	0.83	
	Jan. 15	0.75		Apr. 15	0.92		July 15	0.83		Oct. 15	*	
1945	Feb. 15	0.83		May 15	1.00		Aug. 15	0.92		Nov. 15	*	
	Mar. 15	1.00		June 15	0.83		Sep. 15	*		Dec. 15	*	

CONANT KAWELA WELL (called Shaft 4 after 1950)

Index map No. M61. Molokai Ranch. Five miles east of Kaunakakai, on west bank of Kawela Gulch. Latitude 21° 04' 20", longitude 157° 57' 00". Maui-type well, dug 1921. Aquifer, East Molokai basalt. Depth 38 feet, altitude of well curb 38.24 feet.

Year	Date	Water level	Chloride in ppm	Date	Water level	Chloride in ppm	Date	Water level	Chloride in ppm	Date	Water level	Chloride in ppm
	June 8	1.84		Oct. 26	2.21							
1947	Aug. 3	2.06		Dec. 19	2.57							
	Sep. 21	2.36										
	Feb. 7	2.28		Apr. 27		18	July 19	2.20				
1948	11	2.27		May 13	1.94	32	Aug. 26	1.77	18			
	Mar. 16	2.20		30	2.01							

	Jan. 29	2.40	Oct. 22	1.94							
1949	July 8	1.99	Dec. 1	1.89[a]							
	Sep. 14	2.44	17	1.97[a]							
	Jan. 16	2.01[a]	Jan. 26	1.99[a]	May 7	2.25		Dec. 1	2.42		
1950	19	2.03	28	2.03[a]	June 24	1.94		5	2.66		
	19	1.99[a]	Mar. 13	2.14[a]	Oct. 5	1.85[a]					
	Jan. 15	2.15	Aug. 14	2.07							
1951	Mar. 19	2.38	Nov. 8	2.07							
	May 19	1.99	Dec. 13	2.33							
	Feb. 26	2.26[a]	Aug. 15	2.00[a]	Aug. 21	1.89[a]		Dec. 9	2.41		
1952	Apr. 17	1.93	18	1.91	23	1.94[a]		12	2.41		
	June 10	1.95	19	2.08	28	1.97[a]					
	Aug. 14	2.03	20	1.91[a]	Sep. 27	2.03[a]					
	Jan. 29	1.95	July 29	1.91[a]	Oct. 19	1.87[a]		Dec. 15	2.03[a]		
1953	Mar. 30	1.84	Aug. 4	2.12[a]	Nov. 17	1.89[a]		30	2.01[a]		
	May 23	1.79	4	2.20	22	2.04					
	June 2	1.84	Sep. 29	1.97	Dec. 2	2.06[a]					
	Jan. 6	1.97[a]	Mar. 28	1.97	Sep. 21	2.09[a]					
1954	23	2.05	Apr. 15	1.08[a]	Oct. 15	2.14[a]					
	Mar. 10	2.08[a]	17	1.96	Nov. 19	2.04					
	Jan. 4	2.10	July 15	1.50	Aug. 31	1.81		Sep. 18	1.81		
	Mar. 16	2.06	July 21	1.55	Sep. 1	1.84		26	1.70		
1955	May 11	1.75	Aug. 2	1.61	2	1.82		Oct. 20	1.81[a]		
	June 6	1.52	22	1.84	5	1.86		Nov. 11	1.94		
	24	1.47	29	1.84	7	1.95		22	2.05		
	July 11	1.44[a]	30	1.86	14	1.79					
	Jan. 3	2.04	Jan. 26	1.93	Feb. 24	2.00		May 21	1.85		
	13	1.56	31	2.00	Mar. 6	1.68		July 22	1.75		
1956	14	2.00	Feb. 10	1.96	7	1.83		Sep. 11	1.87		
	16	2.00	16	1.70	Mar. 15	1.80		Nov. 21	2.01		
	23	1.87									
	Jan. 20	2.09	Nov. 5	1.68							
1957	May 20	1.80									
	July 8	1.88									
	Feb. 24	1.83	Aug. 11	2.20							
1958	Apr. 28	1.72									
	June 23	1.87									
	Jan. 29	2.14									
1959	Mar. 25	2.12									
	July 30	2.08									

KAMALO WELL

Index map No. 32. 0.5 mile northeast of Kamalo Wharf. Latitude 21° 03' 30", longitude 145° 52' 25". Aquifer, East Molokai basalt. Depth 40 feet. Land-surface datum is 43.23 feet above mean sea level.

Year	Date	Water level	Chloride in ppm	Date	Water level	Chloride in ppm	Date	Water level	Chloride in ppm	Date	Water level	Chloride in ppm
1940					(Water level ranged from 1.83 feet to 2.17 feet)							
	Jan. 15	2.17		Apr. 15	1.83		July 15	1.75		Oct. 15	1.83	
1941	Feb. 15	1.83		May 16	1.83		Aug. 15	1.83		Nov. 15	1.75	
	Mar. 15	1.83		June 15	1.75		Sep. 15	1.83		Dec. 15	1.83	
	Jan. 15	2.00		Apr. 15	2.00		July 15	2.00		Oct. 15	1.67	
1942	Feb. 15	1.92		May 15	1.92		Aug. 15	2.00		Nov. 15	1.67	
	Mar. 15	2.00		June 15	2.00		Sep. 15	1.83		Dec. 15	1.67	
	Jan. 15	1.83		Apr. 15	1.92		July 15	1.83		Oct. 15	1.75	
1943	Feb. 15	1.83		May 15	1.83		Aug. 15	1.92		Nov. 15	1.75	
	Mar. 15	1.83		June 15	1.83		Sep. 15	1.83		Dec. 15	1.83	
	Jan. 15	1.92		Apr. 15	1.83		July 15	1.83		Oct. 15	2.00	
1944	Feb. 15	1.83		May 15	1.83		Aug. 15	1.75		Nov. 15	1.83	
	Mar. 15	1.75		June 15	1.92		Sep. 15	1.83		Dec. 15	1.83	
	Jan. 15	1.92		Apr. 15	1.67		July 15	1.67		Oct. 15	1.50	
1945	Feb. 15	1.83		May 15	1.67		Aug. 15	1.83		Nov. 15	1.50	
	Mar. 15	1.75		June 15	1.67		Sep. 15	1.67		Dec. 15	1.67	
	Jan. 15	1.50		Apr. 15	1.33		July 15	1.67		Oct. 15	1.83	
1946	Feb. 15	1.25		May 15	1.50		Aug. 15	1.75		Nov. 15	1.67	
	Mar. 15	1.25		June 15	1.67		Sep. 15	1.67		Dec. 15	1.50	
	June 9	3.43[a]										
1947	Aug. 3	4.32										
	Sep. 21	4.02[a]										
	Nov. 7	4.44										
	Feb. 7	3.85[a]		Mar. 16	4.55		July 19	3.36[a]				
1948	8	4.75		May 14	3.70[a]		Aug. 26	4.16	67			
	11	4.80		30	4.45							
	Jan. 29	5.10		Aug. 23	4.81[a]		Oct. 22	4.99				
1949	July 7	4.96[a]		Sep. 13	4.99[a]		Dec. 1	4.90[a]				
	8	4.94		14	5.11[a]		17	4.90				
	Jan. 19	4.75		Jan. 28	4.74		June 24	4.29		Dec. 5	5.40	
1950	19	3.47[a]		Mar. 13	4.50		Aug. 10	3.97[a]				
	26	3.58[a]		May 7	3.78[a]		Oct. 5	4.35				
	Jan. 21	4.91		Aug. 14	4.69							
1951	Mar. 19	5.20		Nov. 8	4.97							
	May 19	4.10		Dec. 13	4.90							

	Feb. 26	3.63[a]	Aug. 14	4.66	Oct. 12	4.60	Dec. 12	5.00
1952	Apr. 17	4.74	15	4.60	17	4.78		
	June 10	4.54	22	3.90[a]	Dec. 9	5.00		
	Jan. 1	4.49[a]	Jan. 6	4.72	May 23	4.31	Sep. 29	4.56
1953	2	4.47[a]	6	4.5[a]	June 2	4.01[a]	Nov. 22	4.43
	3	4.42[a]	Feb. 8	4.26[a]	July 29	4.57		
	4	4.80	Mar. 30	4.38	Aug. 4	4.69		
	Jan. 23	4.57	Sep. 21	4.73				
1954	Mar. 28	4.51	Nov. 19	4.54				
	May 18	4.38						
	Jan. 7	4.78	July 11	4.13				
1955	Mar. 16	4.82	14	4.20				
	May 11	4.45	Sep. 7	4.69				
	Mar. 7	4.76	Sep. 11	4.59				
1956	May 21	4.59	Nov. 21	4.68				
	July 22	4.60						
	Jan. 20	4.77	July 8	4.57				
1957	Mar. 23	4.72	Sep. 10	4.73				
	May 20	4.58	Nov. 5	4.27				
	Jan. 6	4.50	June 23	4.54				
1958	Feb. 24	4.38	Aug. 11	5.17				
	Apr. 28	4.40						
	Jan. 28	5.04	July 30	4.80				
1959	Mar. 25	4.79	Sep. 30	4.92				
	May 27	4.75						

MOLOKAI RANCH WELL

Replaces Test Boring T4. Index map No. 84. USGS No. 11 (Bull. 11). Latitude 21° 06' 06", longitude 157° 01' 20". Aquifer, East Molokai basalt. Depth 59 feet. Land-surface datum is 51 feet above mean sea level.

Year	Date	Water level	Chloride in ppm	Date	Water level	Chloride in ppm	Date	Water level	Chloride in ppm	Date	Water level	Chloride in ppm
	Jan. 8	2.54	25	July 6	1.97							
1955	Mar. 10	2.49	14	Sep. 7	2.17	70						
	May 11	2.13	23	Nov. 11	2.57	134						
	Jan. 23	2.31		July 22	2.20							
	Mar. 7	2.29	23	Sep. 21	2.35	72						
1956	May 11	2.23	27	Nov. 21	2.75	93						
	July 11	2.20	44									

Table 9. RECORDS OF WATER LEVEL and CHLORIDE CONTENT *(continued)*

MOLOKAI RANCH WELL (Continued)

Year	Date	Water level	Chloride in ppm	Date	Water level	Chloride in ppm	Date	Water level	Chloride in ppm	Date	Water level	Chloride in ppm
1957	Jan. 21	2.32	88	Aug. 20	2.40	110						
	Mar. 24	2.42	64	Sep. 13	2.45	115						
	May 14	2.26		Nov. 5	2.05	141						
	July 9	2.40										
1958	Jan. 7	2.05	133	June 23	2.15	79						
	Feb. 24	2.08	115	Aug. 11	2.20	113						
	May 1	2.05	65	Dec. 3		150						
1959	Jan. 26	2.50	73	July 27	2.40	108						
	Mar. 23	2.35	69	Sep. 30	2.55	121						
	May 27	2.30	76	Dec. 3	2.40	128						
1960	Jan. 28		128									
	Mar. 14		43									
	May 9		56									

TEST BORING T1

Index map No. T69. 0.75 mile east of Molokai Airport. Latitude 21° 04' 53", longitude 145° 59' 20". Depth 415 feet. Land-surface datum is 397.94 feet above mean sea level.

Year	Date	Water level	Chloride in ppm	Date	Water level	Chloride in ppm	Date	Water level	Chloride in ppm	Date	Water level	Chloride in ppm
1940	Jan. 16	6.27	530	Apr. 20	6.77	522	July 15	6.61	530	Oct. 21	6.44	535
	Feb. 20	6.36	536	May 29	6.69	510	Aug. 16	6.69	530	Nov. 19	6.36	538
	Mar. 18	6.77	516	June 20	6.61	510	Sep. 19	6.61	545	Dec. 23	6.27	544
1941	Jan. 23	6.27	541	Apr. 18	6.36		July 18	6.27	528	Oct. 16	6.36	570
	Feb. 17	6.27	512	May 23	6.44	560	Aug. 21	6.36	534	Nov. 17	6.44	547
	Mar. 17	6.27	532	June 18	6.36	518	Sep. 17	6.27	560	Dec. 17	6.27	550
1942	Jan. 15	6.4	561	Apr. 15	6.3	548	July 15	6.2	539	Oct. 15	6.1	574
	Feb. 19	6.4	556	May 19	6.4	534	Aug. 15	6.1	555	Nov. 15	6.1	569
	Mar. 19	6.3	542	June 15	6.0*	553	Sep. 15	6.1	548	Dec. 15	6.0	532
1943	Jan. 15	6.11	532	Apr. 15	6.19	569	July 15	6.27	577	Oct. 26	6.36	630
	Feb. 15	6.27	553	May 15	6.27	572	Aug. 15	6.23	625	Nov. 15	6.27	680
	Mar. 15	6.36	564	June 15	6.32	566	Sep. 15	6.27	625	Dec.	6.27	650
1944	Jan. 15	6.27	640	Apr. 15	6.27	596	July 15	6.19	635	Oct. 15	6.27	599
	Feb. 15	6.27	610	May 15	6.27	592	Aug. 15	6.52	601	Nov. 15	6.27	611
	Mar. 15	6.32	620	June 15	6.27	610	Sep. 15	6.19	599	Dec. 15	6.11	600

	Jan. 15	6.19	620	Apr. 15	5.94	635	July 15	6.27	**	Oct. 15	6.27	620
1945	Feb. 15	6.19	631	May 15	6.36	652	Aug. 15	6.19	635	Nov. 15	6.19	620
	Mar. 15	6.19	600	June 15	6.19	610	Sep. 15	6.27	610	Dec. 15	6.19	630
	Jan.			Apr. 15	5.77	638	July	**	**	Oct.		
1946	Feb. 15	5.69	620	May 15	5.06	600	Aug.	**	**	Nov.		
	Mar. 15			June	**	**	Sep.			Dec.		

TEST BORING T4.

Index map No. T53. In Kaunakakai, 0.25 mile north of post office. Latitude 21° 05' 42", longitude 157° 05' 20". Drilled in 1945. Depth 21 feet, altitude 15 feet. Aquifer, East Molokai basalt. Land-surface datum is 15.38 feet above mean sea level.

Year	Date	Water level	Chloride in ppm	Date	Water level	Chloride in ppm	Date	Water level	Chloride in ppm	Date	Water level	Chloride in ppm
	June 4	2.28		Sep. 21	2.50							
1947	8	2.07		Oct. 26	2.58							
	Aug. 3	2.03		Dec. 19	2.48							
	Feb. 7	2.42		May 30	2.19							
1948	11	2.52		July 19	2.40							
	Mar. 16	2.40		Aug. 26	2.25	264						
	May 14	2.21										
	Jan. 29	2.52		Oct. 22	2.40							
1949	July 7	2.40		Dec. 16	2.29							
	Aug. 22	2.43		17	2.37							
	Sep. 13	2.48										
	Jan. 16	2.44		Jan. 26	2.39		May 7	2.40		Oct. 5	2.32	
1950	19	2.44		28	2.43		June 24	2.22		Dec. 1	3.27	
	19	2.41		Mar. 13	2.35		Aug. 10	2.35		5	2.86	
	Jan. 21	2.53		Nov. 8	2.69							
1951	Mar. 19	2.69		Dec. 13	2.63							
	May 19	2.36										
	Jan. 23	2.65		Aug. 14	2.58							
1952	Feb. 26	2.64		Oct. 17	2.62							
	Apr. 17	2.48		Dec. 12	2.56							
	June 10	2.39										
	Feb. 6	2.40		July 29	2.48							
1953	Mar. 30	2.32		Sep. 30	2.48							
	May 23	2.26		Oct. 1	2.48							
	June 2	2.26		Nov. 22	2.49							
	May 17	2.34		Nov. 19	2.54							
1954	19	2.33		19	2.58							
	Sep. 23	2.63	140									

Table 9. RECORDS OF WATER LEVEL and CHLORIDE CONTENT *(continued)*

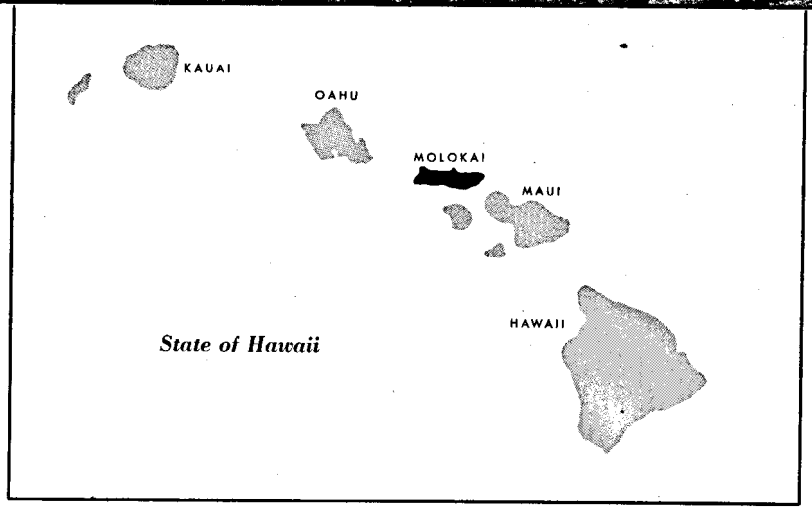
UALAPUE WELL (Shaft 6)

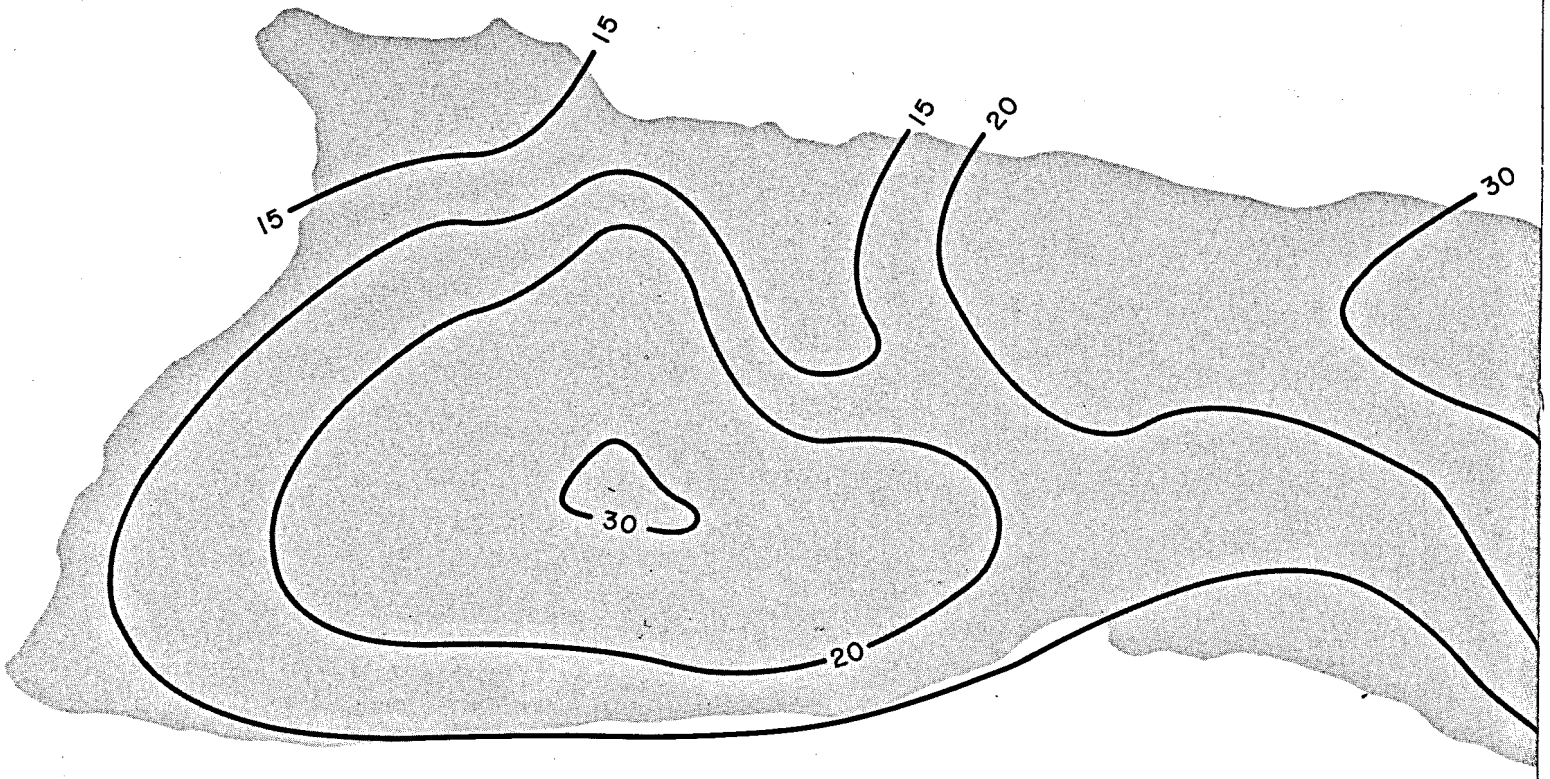
Index map No. M21. 2.75 miles east of Kamalo Well. Latitude 21° 03' 30", longitude 156° 50' 00". Aquifer, East Molokai basalt. Land-surface datum is 43.71 feet above mean sea level.

Year	Date	Water level	Chloride in ppm	Date	Water level	Chloride in ppm	Date	Water level	Chloride in ppm	Date	Water level	Chloride in ppm
1940					(Water level about 4.4 feet throughout 1940)							
	Jan. 15	4.42		Apr. 15	4.42		July 15	4.17		Oct. 15	4.25	
1941	Feb. 15	4.42		May 16	4.25		Aug. 15	4.25		Nov. 15	4.33	
	Mar. 15	4.33		June 15	4.17		Sep. 15	4.33		Dec. 15	4.42	
	Jan. 15	4.42		Apr. 15	4.58		July 15	4.25		Oct. 15	4.08	
1942	Feb. 15	4.33		May 15	4.50		Aug. 15	4.33		Nov. 15	4.25	
	Mar. 15	4.50		June 15	4.42		Sep. 15	4.25		Dec. 15	4.33	
	Jan. 15	4.33		Apr. 15	4.25		July 15	4.50		Oct. 15	4.17	
1943	Feb. 15	4.50		May 15	4.50		Aug. 15	4.25		Nov. 15	4.08	
	Mar. 15	4.33		June 15	4.42		Sep. 15	4.25		Dec. 15	3.67	
	Jan. 15	3.58		Apr. 15	3.92		July 15	3.50		Oct. 15	4.00	
1944	Feb. 15	3.58		May 15	3.92		Aug. 15	3.58		Nov. 15	3.92	
	Mar. 15	4.00		June 15	3.75		Sep. 15	3.75		Dec. 15	3.83	
	Jan. 15	3.67		Apr. 15	3.67		July 15	3.75		Oct. 15	3.67	
1945	Feb. 15	3.83		May 15	3.67		Aug. 15	4.00		Nov. 15	3.75	
	Mar. 15	3.67		June 15	3.67		Sep. 15	3.67		Dec. 15	3.75	
	Jan. 15	3.58		Apr. 1	3.58		July 15	3.42		Oct. 15	3.58	
1946	Feb. 15	3.42		May 15	3.42		Aug. 15	3.50		Nov. 15	3.50	
	Mar. 15	3.42		June 15	3.50		Sep. 15	3.58		Dec. 15	3.42	
	June 9	4.78		Nov. 7	5.04							
1947	Aug. 3	4.93		Dec. 19	5.06							
	Sep. 21	5.18										
	Feb. 7	5.31		May 14	4.80[a]		Aug. 26	4.73	51			
1948	11	5.27		30	4.99							
	Mar. 16	5.01		July 19	5.01							
	Jan. 29	5.44		Aug. 23	4.81[a]		Oct. 22	4.99				
1949	July 7	4.96[a]		Sep. 13	4.99[a]		Dec. 1	4.90[a]				
	8	4.94		14	5.11[a]		Dec. 17	4.90				
	Jan. 19	6.05		Jan. 28	5.05		June 24	4.83		Dec. 5	5.66	
1950	19	4.99[a]		Mar. 13	4.96		Aug. 10	4.96				
	26	4.99[a]		May 7	5.26		Oct. 5	4.87				
	Jan. 21	5.25		Aug. 14	5.46							
1951	Mar. 19	5.61		Nov. 8	5.46							
	May 19	5.34		Dec.	5.44							

1952	Feb. 26	5.39	Apr. 17	5.32	Aug. 14	5.21	Oct. 12	5.14
	Mar. 5	5.34	May 14	5.19	15	5.16	17	5.23
	12	5.34	May 15	5.18	18	5.05[a]	Dec. 9	5.33
	20	5.39	20	5.12	22	5.14	19	5.33
	Apr. 1	5.32	June 10	5.05	26	5.16	26	5.33
	7	5.31	24	5.10	Sep. 12	5.1[a]		
1953	Jan. 2	5.27	June 2	4.82	Oct. 20	4.93	Nov. 22	4.92
	12	5.1	July 29	4.91[a]	26	5.01	Dec. 4	4.95[a]
	28	5.04	Aug. 4	5.08	Nov. 1	4.87[a]	15	4.93[a]
	Mar. 30	4.74	4	5.05	Nov. 17	4.85[a]	19	4.98[a]
	May 23	4.81	Oct. 10	4.86[a]	21	4.91[a]	30	4.98
	June 2	4.81						
1954	Jan. 23	4.99	Mar. 28	4.87[a]	May 17	4.75[a]	Sep. 27	5.11
	Feb. 15	4.95	Apr. 8	4.87	17	4.79	Oct. 15	5.10[a]
	Mar. 8	4.85[a]	14	4.78[a]	Sep. 21	5.15	Nov. 19	5.01
	10	4.92	May 14	4.03[a]				
1955	Jan. 22	5.00	July 11	4.57[a]	July 24	4.75	Sep. 7	5.18
	Feb. 24	5.37[a]	12	4.69	26	4.75	15	5.13
	Mar. 16	5.27	14	4.71	Aug. 5	4.89	23	5.08
	May 11	4.87	15	4.64	15	5.02	Oct. 9	5.02[a]
	June 10	4.64	18	4.70	24	5.15	Nov. 11	5.20
	21	4.57	21	4.73	25	5.14		
1956	Jan. 31	5.50	July 22	5.16	Nov. 21	5.29		
	Mar. 7	5.29	Aug. 17	5.14	Dec. 26	5.30		
	May 21	5.14	Sep. 11	5.20				
1957	Jan. 20	5.25	May 29	4.95	Nov. 5	4.87		
	25	5.33	July 8	4.87				
	Mar. 23	5.17	Sep. 10	5.14				
1958	Jan. 6	5.08	June 23	4.99				
	Feb. 24	4.92	Aug. 11	5.63				
	Apr. 30	4.84						
1959	Jan. 29	5.55						
	Mar. 25	5.36						
	May 27	5.29						
	July 30	5.70						

[a] Pumping
* Well clogged with rubbish.
** Since May 1946, Test Boring T1 has been inaccessible for measurement having been buried by dirt bulldozed over it by Army.





KA WAI OIA KE OLA O KA AINA

Water is the life of the land.